

**ADD = Added chart, REV = Revised chart, DEL = Deleted chart.**

**No revision activity since Disc 11-2011**

## **TERMINAL CHART NOTAMs**

**No Chart NOTAMs for Airport UAAA**

**General Info**

Almaty, KAZ

N 43° 21.3' E 77° 02.7' Mag Var: 5.0°E

Elevation: 2234'

Public, IFR, Control Tower, Customs, Landing Fee

Fuel: Jet A-1

Repairs: Major Airframe, Major Engine

Time Zone Info: GMT+6:00 no DST

**Runway Info**

Runway 05L-23R 14764' x 148' concrete

Runway 05R-23L 14429' x 148' concrete

Runway 05L (52.0°M) TDZE 2221'

Lights: Edge, ALS, Centerline

Runway 05R (52.0°M) TDZE 2224'

Lights: Edge, ALS

Runway 23L (232.0°M) TDZE 2234'

Lights: Edge, ALS

Runway 23R (232.0°M) TDZE 2221'

Lights: Edge, ALS, Centerline, TDZ

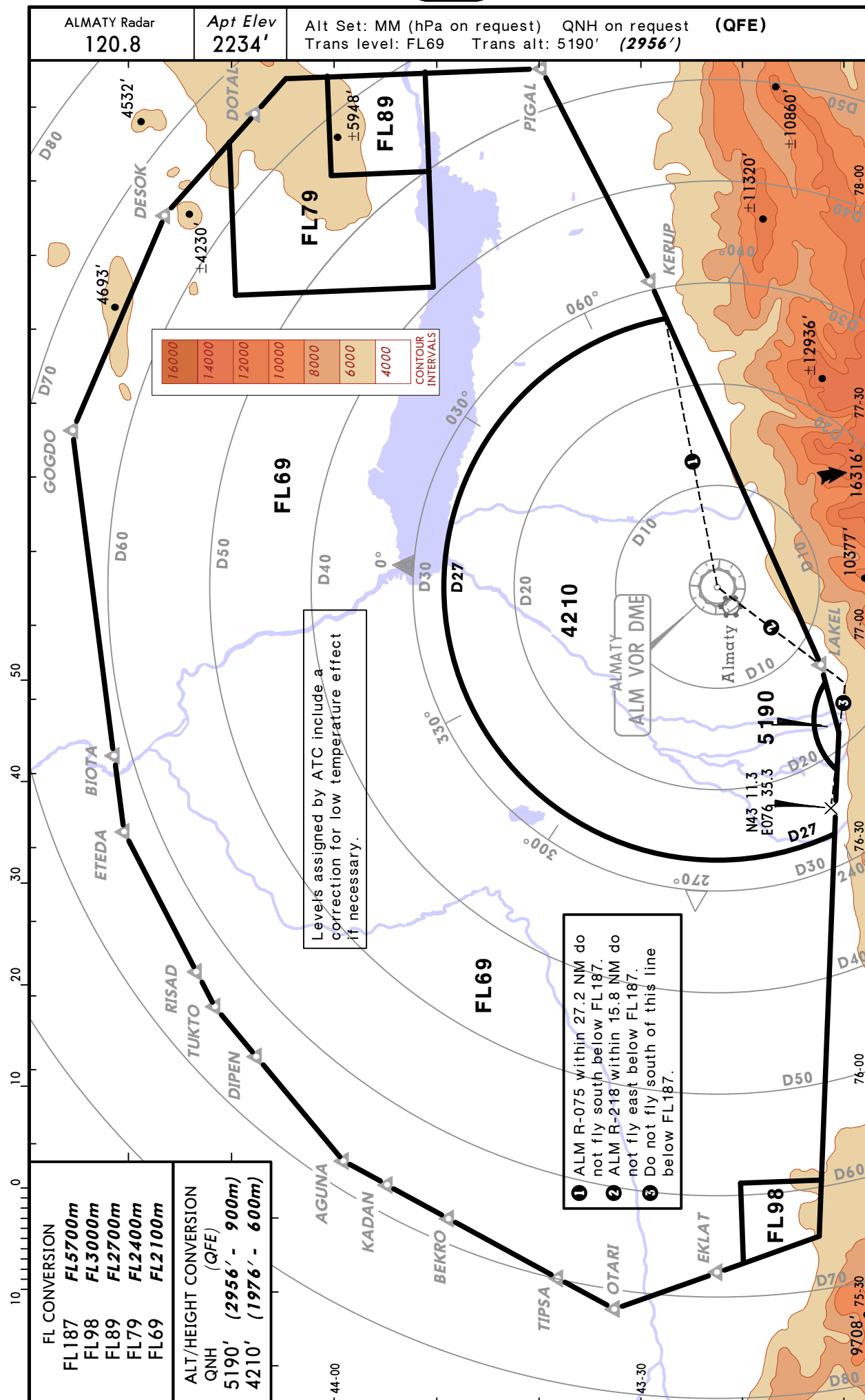
**Communications Info**ATIS **135.1** Non-EnglishATIS **129.8**Almaty Tower **122.4** SecondaryAlmaty Tower **119.4**Almaty Ground Control **122.4** SecondaryAlmaty Ground Control **121.7**Almaty Approach Control **124.8**Almaty Approach Control **122.4** SecondaryAlmaty Radar **122.4** SecondaryAlmaty Radar **120.8****Notebook Info**

**UAAA/ALA**  
**ALMATY**

29 AUG 08

10-1R

**ALMATY, KAZAKHSTAN**  
**RADAR MINIMUM ALTITUDES**



CHANGES: New chart.

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**UAAA/ALA**  
**ALMATY**

18 JUN 10

10-2

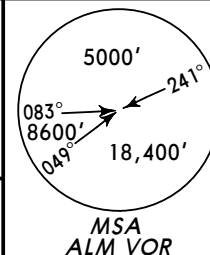
**ALMATY, KAZAKHSTAN**

**STAR**

ATIS  
129.8

Apt Elev  
2234'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL69 Trans alt: 5190' (2956')  
Radio interference may arise during ILS and VOR approaches of aircraft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**AGUNA 3A [AGUN3A]**

**BEKRO 3A [BEKR3A]**

**BIOTA 3A [BIOT3A]**

**EKLAT 3A [EKLA3A]**

**ETEDA 3A [ETED3A]**

**RWYS 05L/R ARRIVALS**

TO IAF D17.4 ALM/D17.3 ATA

FOR STARS WITHOUT RADAR CONTROL

REFER TO CHART 10-2D

**SPEED MAX 245 KT BELOW FL98**

**ETEDA**  
N44 20.4 E076 32.1  
(ALM R-333/D62.7)  
(ATA R-334/D62.5)

**BIOTA**

N44 21.4 E076 42.4  
(ALM R-340/D61.2)  
(ATA R-340/D61.1)

**AGUNA**

N43 59.1 E075 47.7  
(ALM R-299/D67.1)  
(ATA R-299/D67)

**BEKRO**

N43 48.8  
E075 39.9  
(ALM/ATA R-289/D67.3)

**REGMU**

N43 50.1 E076 00.2  
(ALM R-297/D54.7)  
(ATA R-297/D54.6)

**UZUNAGACH**

345 UC  
N43 36.0 E076 19.6  
At or above  
FL118

**LURIT**

N43 29.5 E076 19.7  
(ALM R-277/D33.9)  
(ATA R-278/D33.8)

**EKLAT**

N43 22.5 E075 32.6  
(ALM R-266/D67.5)  
(ATA R-266/D67.4)

**ASTAS**

N43 22.6 E076 01.4  
(ALM R-267/D46.4)  
(ATA R-266/D46.5)

(IAF)  
**D17.4 ALM**

**D17.3 ATA**

N43 22.6 E076 41.3  
(ALM R-267/ATA R-266)

At FL69

**ALMATY**

D 112.3 ALM

N43 22.5 E077 05.2

D 116.4 ATA

N43 22.6 E077 05.1

- ① ALM R-075 within 27.2 NM do not fly south below FL187.
- ② ALM R-218 within 15.8 NM do not fly east below FL187.

**UAAA/ALA**  
**ALMATY**

18 JUN 10

**10-2A**

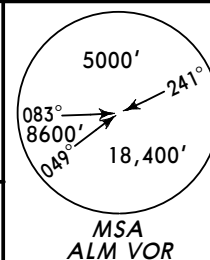
**ALMATY, KAZAKHSTAN**

**STAR**

ATIS  
 129.8

Apt Elev  
 2234'

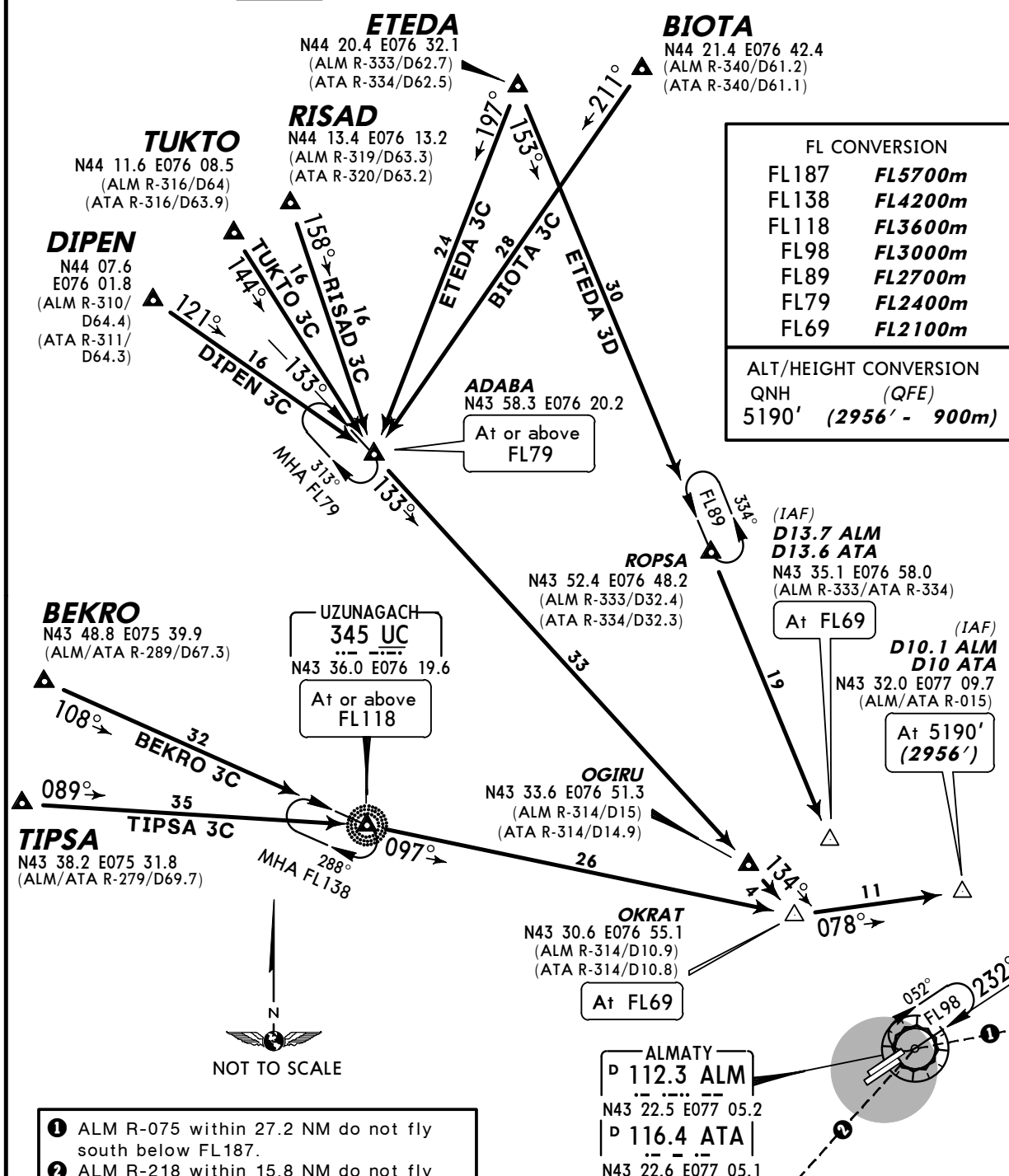
Alt Set: MM (hPa on request) QNH on request (QFE)  
 Trans level: FL69 Trans alt: 5190' (2956')  
 Radio interference may arise during ILS and VOR approaches of aircraft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**BEKRO 3C [BEKR3C], BIOTA 3C [BIOT3C]  
 DIPEN 3C [DIPE3C] ETEDA 3C [ETED3C]  
 ETEDA 3D [ETED3D], RISAD 3C [RISA3C]  
 TIPSA 3C [TIPS3C], TUKTO 3C [TUKT3C]  
 RWYS 23L/R ARRIVALS**

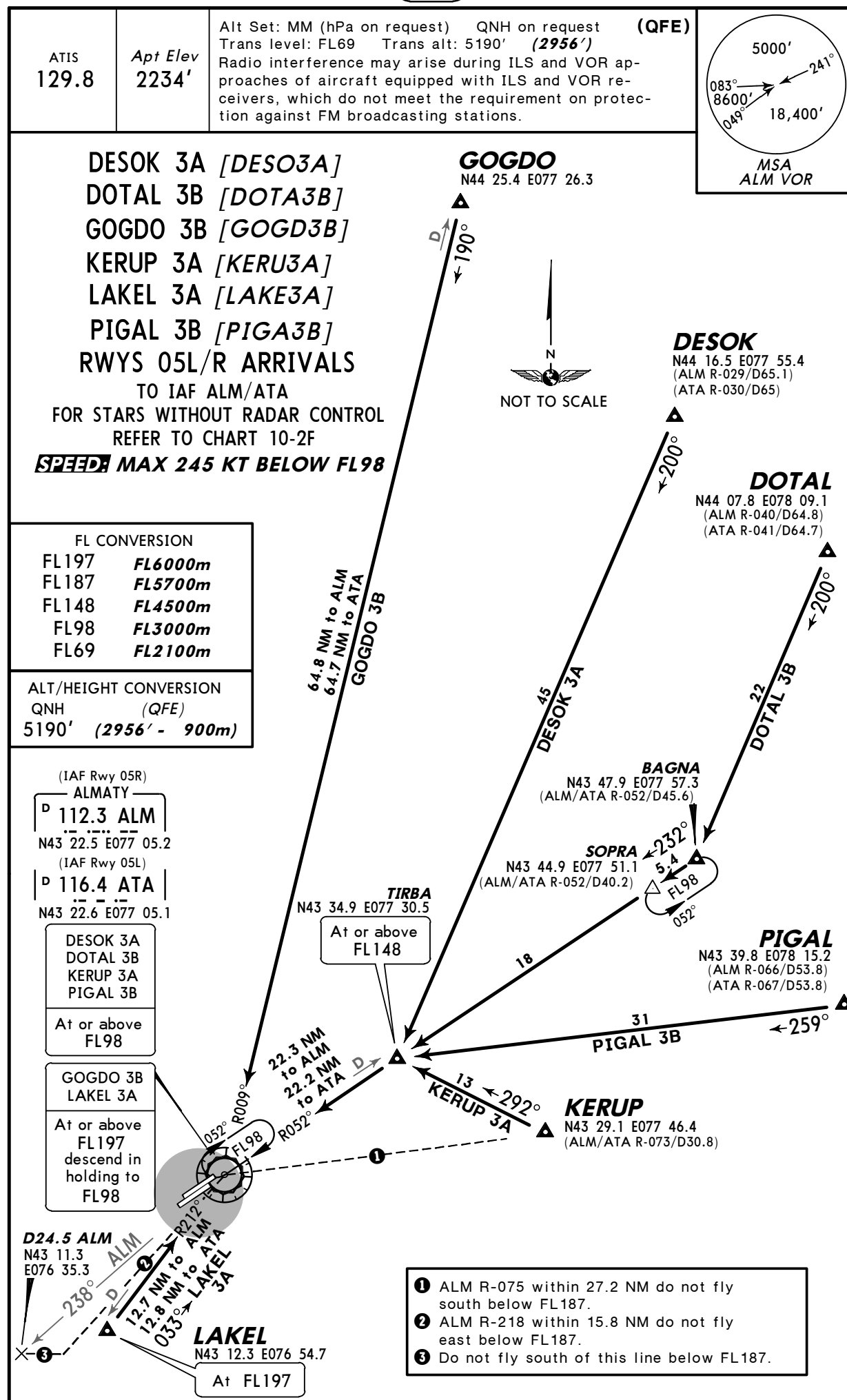
TO IAF D10.1 ALM/D10 ATA & IAF D13.7 ALM/D13.6 ATA  
 FOR STARS WITHOUT RADAR CONTROL REFER TO CHART 10-2E

**SPEED MAX 245 KT BELOW FL98**



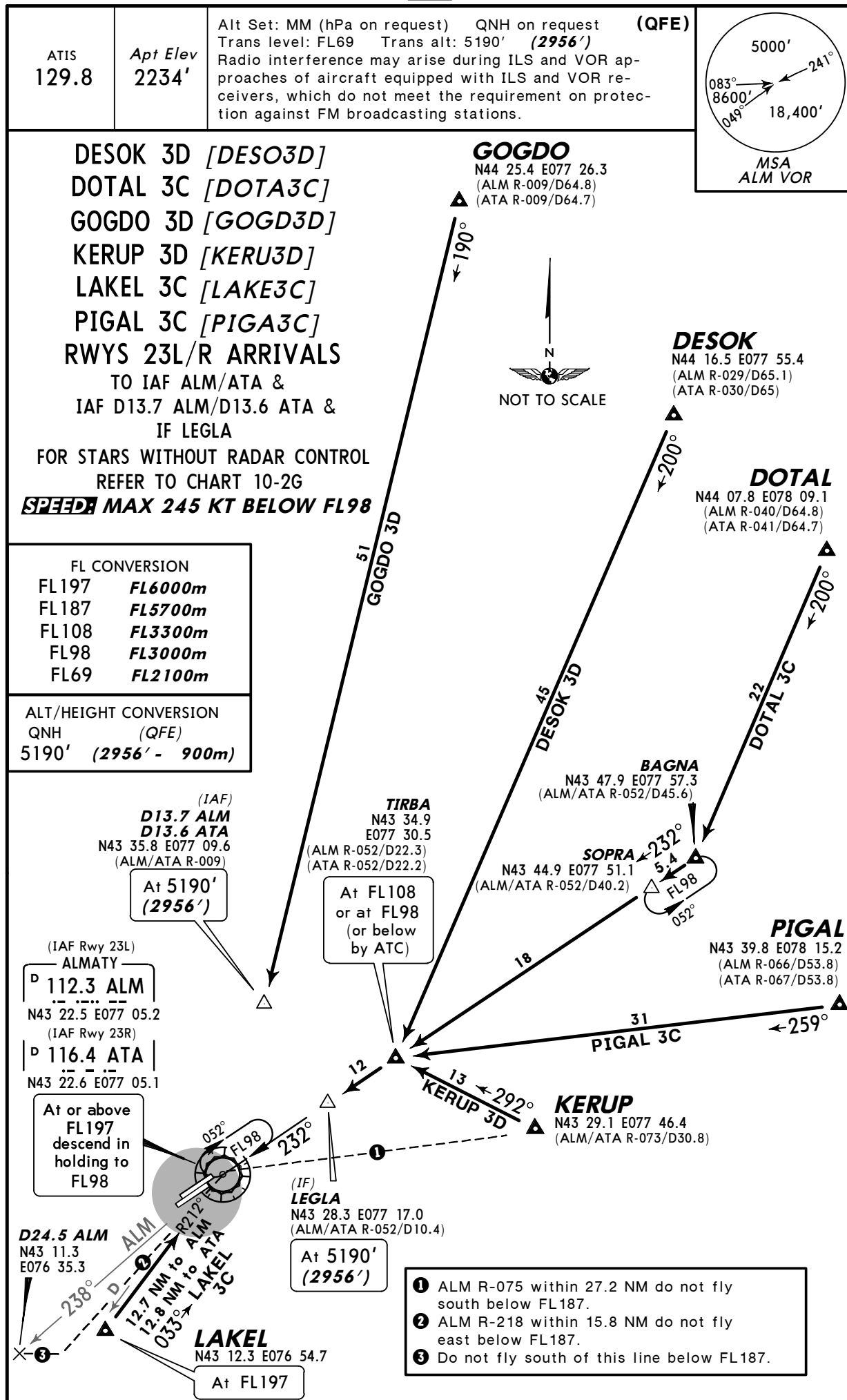
**UAAA/ALA**  
**ALMATY**

**JEPPESEN** **ALMATY, KAZAKHSTAN**  
3 APR 09 **10-2B** **Eff 9 Apr** **STAR**



UAAA/ALA  
ALMATY

**JEPPESSEN** **ALMATY, KAZAKHSTAN**  
3 APR 09 **(10-2C)** **Eff 9 Apr** **STAR**



**UAAA/ALA**  
**ALMATY**

18 JUN 10

**10-2D**

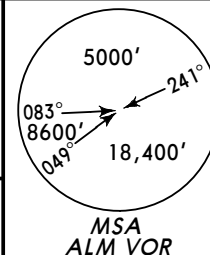
**ALMATY, KAZAKHSTAN**

**STAR**

ATIS  
**129.8**

*Apt Elev*  
**2234'**

Alt Set: MM (hPa on request) QNH on request **(QFE)**  
Trans level: FL69 Trans alt: 5190' **(2956')**  
Radio interference may arise during ILS and VOR approaches of aircraft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**AGUNA 3K [AGUN3K]**  
**BEKRO 3K [BEKR3K]**  
**BIOTA 3K [BIOT3K]**  
**EKLAT 3K [EKLA3K]**  
**ETEDA 3K [ETED3K]**  
**RWYS 05L/R ARRIVALS**

WITHOUT RADAR CONTROL

**~~SPEED~~ MAX 245 KT BELOW FL98**

**ETEDA**  
N44 20.4 E076 32.1  
(ALM R-333/D62.7)  
(ATA R-334/D62.5)

**BIOTA**  
N44 21.4 E076 42.4  
(ALM R-340/D61.2)  
(ATA R-340/D61.1)

**AGUNA**  
N43 59.1 E075 47.7  
(ALM R-299/D67.1)  
(ATA R-299/D67)

**BEKRO**  
N43 48.8  
E075 39.9  
(ALM/ATA R-289/D67.3)

**REGMU**  
N43 50.1 E076 00.2  
(ALM R-297/D54.7)  
(ATA R-297/D54.6)

**UZUNAGACH**  
**345 UC**  
N43 36.0 E076 19.6

**EKLAT**  
N43 22.5 E075 32.6  
(ALM R-266/D67.5)

**AMIKA**  
N43 22.6  
E076 19.9  
(ALM R-267/D33)

| FL CONVERSION |                |
|---------------|----------------|
| FL197         | <b>FL6000m</b> |
| FL187         | <b>FL5700m</b> |
| FL98          | <b>FL3000m</b> |
| FL69          | <b>FL2100m</b> |

| ALT/HEIGHT CONVERSION |                       |
|-----------------------|-----------------------|
| QNH                   | <b>(QFE)</b>          |
| 5190'                 | <b>(2956' - 900m)</b> |

(IAF Rwy 05R)  
**ALMATY**  
**D 112.3 ALM**  
N43 22.5 E077 05.2  
(IAF Rwy 05L)  
**D 116.4 ATA**  
N43 22.6 E077 05.1  
**At FL197**

- ① ALM R-075 within 27.2 NM do not fly south below FL187.
- ② ALM R-218 within 15.8 NM do not fly east below FL187.

**UAAA/ALA**  
**ALMATY**

18 JUN 10

**10-2E**

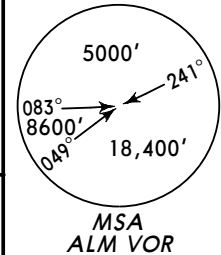
**ALMATY, KAZAKHSTAN**

**STAR**

ATIS  
**129.8**

Apt Elev  
**2234'**

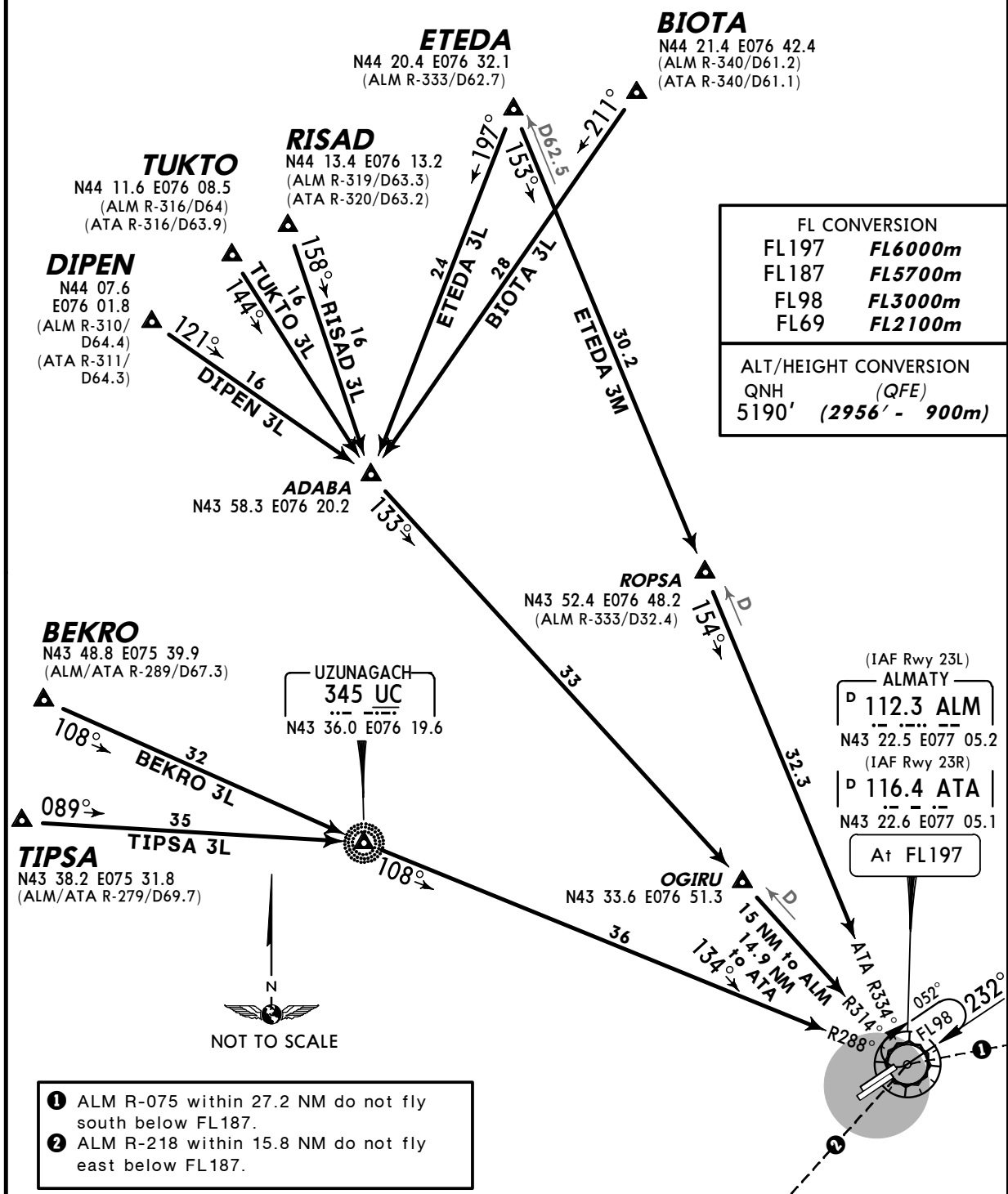
Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL69 Trans alt: 5190' (**2956'**)  
Radio interference may arise during ILS and VOR approaches of aircraft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**BEKRO 3L [BEKR3L], BIOTA 3L [BIOT3L]**  
**DIPEN 3L [DIPE3L], ETEDA 3L [ETED3L]**  
**ETEDA 3M [ETED3M], RISAD 3L [RISA3L]**  
**TIPSA 3L [TIPS3L], TUKTO 3L [TUKT3L]**  
**RWYS 23L/R ARRIVALS**

WITHOUT RADAR CONTROL

**~~SPEED~~ MAX 245 KT BELOW FL98**

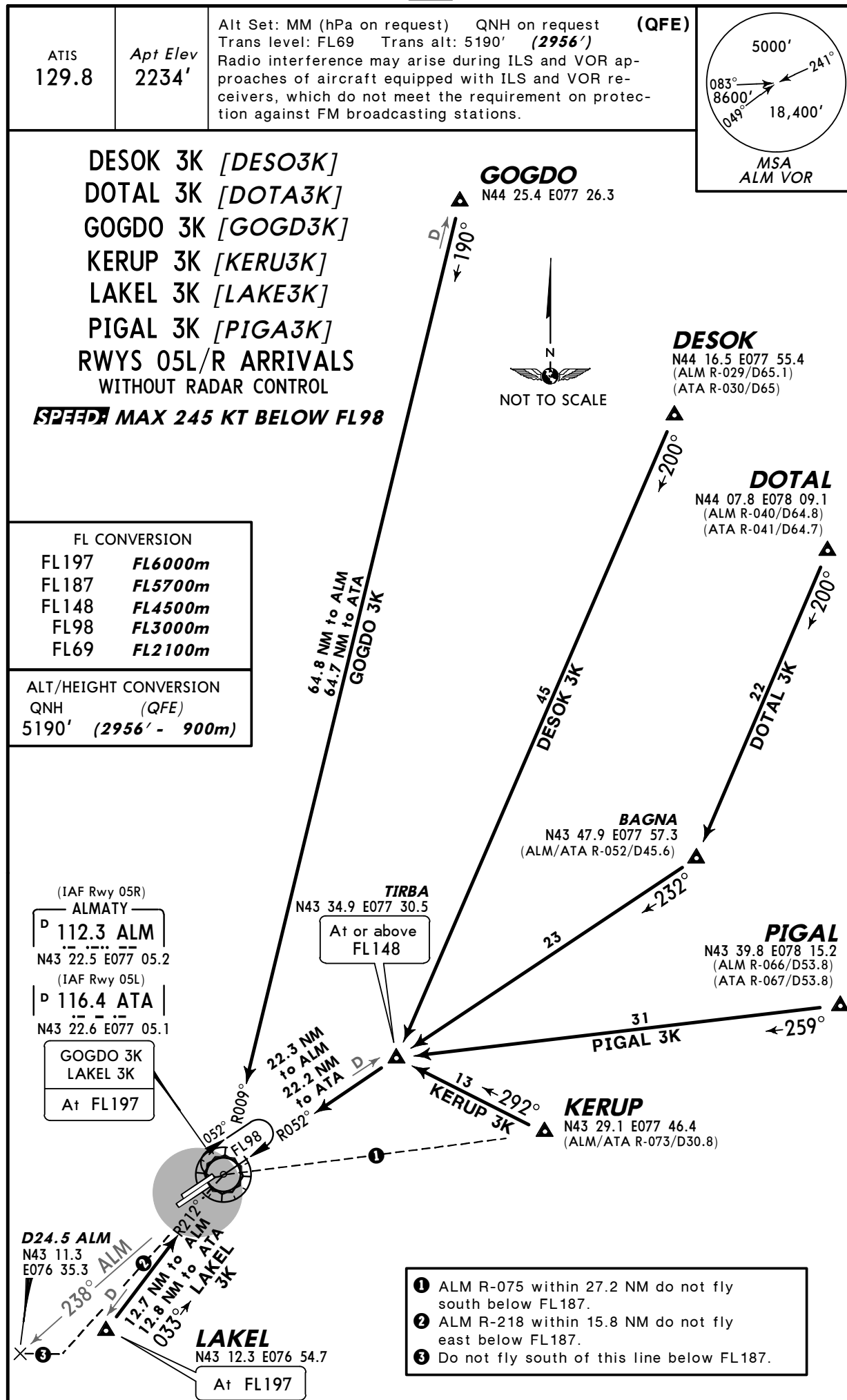


**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
 3 APR 09 **10-2F**

**ALMATY, KAZAKHSTAN**

**STAR**

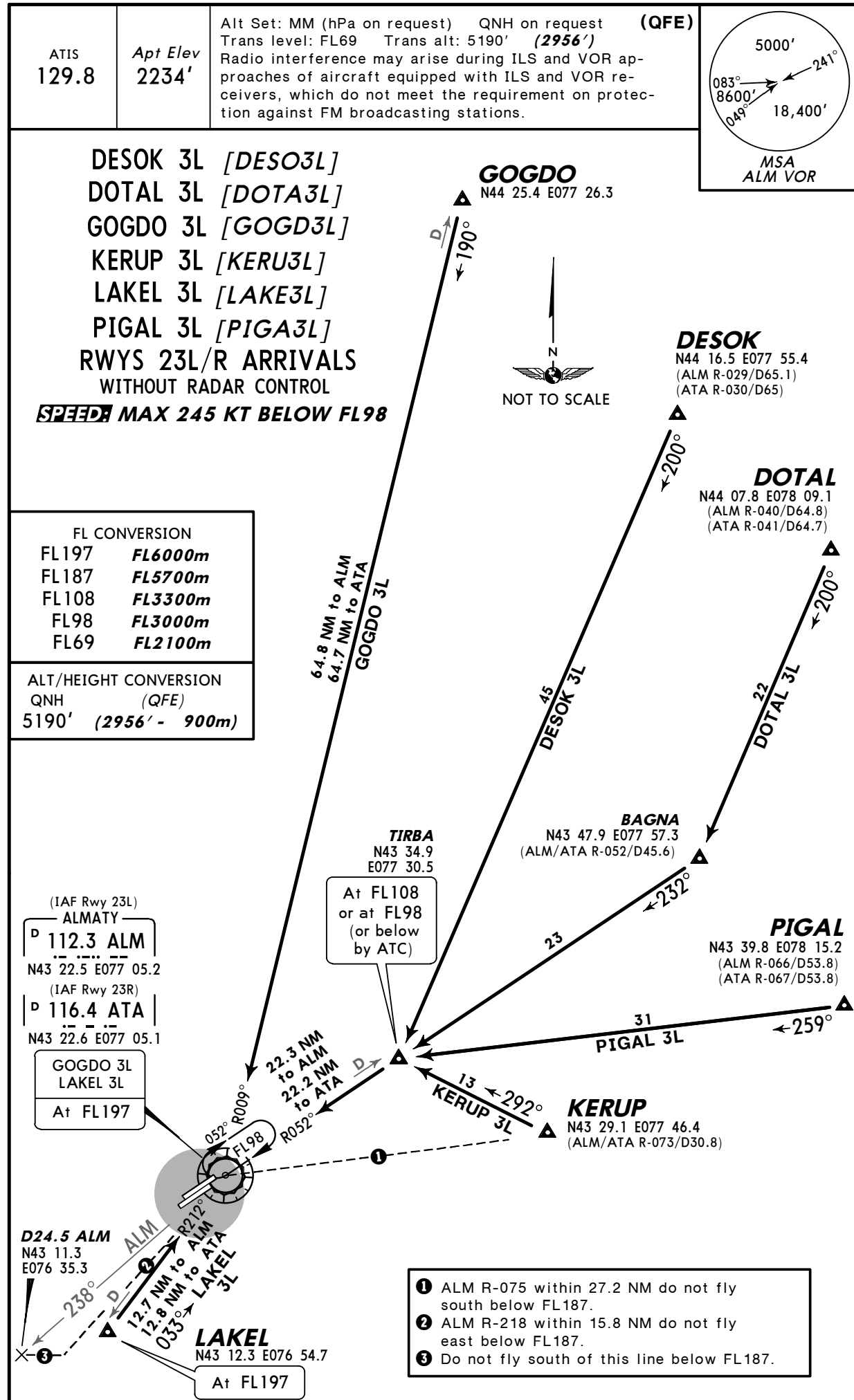


**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **(10-2G)**

**ALMATY, KAZAKHSTAN**

**STAR**



**UAAA/ALA**  
**ALMATY**

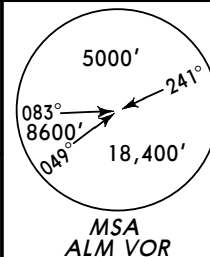
**JEPPESEN**  
11 SEP 09 **10-3**

**ALMATY, KAZAKHSTAN**

**SID**

**Apt Elev**  
**2234'**

QNH on request (**QFE**) Trans level: FL69 Trans alt: 5190' (**2956'**)  
1. Turn speed: MAX 215 KT.  
2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**DESOK 3F [DESO3F]**  
**DOTAL 3E [DOTA3E]**  
**GOGDO 3F [GOGD3F]**  
**RWYS 05L/R DEPARTURES**  
**TO NORTHEAST**

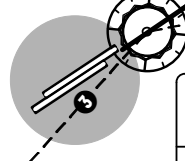
**ALT/HEIGHT CONVERSION**  
QNH (**QFE**)  
3220' (**986'** - 300m)  
5190' (**2956'** - 900m)

**FL CONVERSION**  
FL69 **FL2100m**  
FL98 **FL3000m**  
FL128 **FL3900m**  
FL187 **FL5700m**

**1 TIRBA**  
N43 34.9 E077 30.5  
(ALM R-052/D22.3)  
(ATA R-052/D22.2)

Between  
FL98 & FL128

**ALMATY**  
D 112.3 ALM  
N43 22.5 E077 05.2  
D 116.4 ATA  
N43 22.6 E077 05.1



NOT TO SCALE

**DESOK 3F**  
**DOTAL 3E**

At 3220'  
(986')

**GOGDO 3F**

Turn at  
3220' (986')  
but not before  
ALM/ATA

**GOGDO**  
N44 25.4 E077 26.3  
(ALM R-009/D64.8)  
(ATA R-009/D64.7)

**DESOK**  
N44 16.5 E077 55.4  
(ALM R-029/D65.1)  
(ATA R-030/D65)

**DOTAL**  
N44 07.8 E078 09.1  
(ALM R-040/D64.8)  
(ATA R-041/D64.7)

**BAGNA**  
N43 47.9 E077 57.3  
(ALM/ATA R-052/D45.6)

**D37.3 ALM**  
**D37.4 ATA**  
N43 33.6 E077 54.1  
(ALM R-068/ATA R-069)

- 2** ALM R-075 within 27.2 NM do not fly south below FL187.  
**3** ALM R-218 within 15.8 NM do not fly east below FL187.

**1 DOTAL 3E:**

This SID requires a minimum climb gradient of 425' per NM (7%) to cross TIRBA at FL98. If unable to comply contact ATC.

If unable to maintain climb gradient, after passing TIRBA turn RIGHT, 090° track to D37.3 ALM/D37.4 ATA, turn LEFT, 013° track to DOTAL.

| Gnd speed-KT | 75  | 100 | 150  | 200  | 250  | 300  |
|--------------|-----|-----|------|------|------|------|
| 425' per NM  | 532 | 709 | 1063 | 1418 | 1772 | 2127 |

| SID             | ROUTING                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------|
| <b>DESOK 3F</b> | Climb straight ahead to 3220' (986'), 052° track to TIRBA, turn LEFT, 019° track to DESOK.           |
| <b>DOTAL 3E</b> | Climb straight ahead to 3220' (986'), 052° track via TIRBA to BAGNA, turn LEFT, 019° track to DOTAL. |
| <b>GOGDO 3F</b> | Climb straight ahead, at 3220' (986') but not before ALM/ATA, turn LEFT, 009° track to GOGDO.        |

**UAAA/ALA**  
**ALMATY**

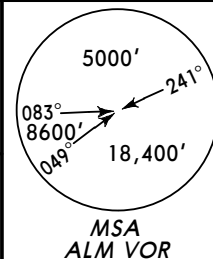
11 SEP 09

(10-3A)

**ALMATY, KAZAKHSTAN****SID****Apt Elev**  
**2234'**QNH on request (**QFE**) Trans level: FL69 Trans alt: 5190' (**2956'**)

1. Turn speed: MAX 215 KT.

2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**DESOK 3G [DESO3G]**  
**DOTAL 3H [DOTA3H]**  
**GOGDO 3H [GOGD3H]**  
**RWYS 23L/R DEPARTURES**  
**TO NORTHEAST**

**ALT/HEIGHT CONVERSION**  
 QNH (**QFE**)  
 4540' (**2306'** - 700m)  
 5190' (**2956'** - 900m)

**FL CONVERSION**  
 FL69 **FL2100m**  
 FL79 **FL2400m**  
 FL108 **FL3300m**  
 FL148 **FL4500m**  
 FL187 **FL5700m**

**GOGDO**

N44 25.4 E077 26.3  
 (ALM R-009/D64.8)  
 (ATA R-009/D64.7)

**DESOK**

N44 16.5 E077 55.4  
 (ALM R-029/D65.1)  
 (ATA R-030/D65)

**DOTAL**

N44 07.8 E078 09.1  
 (ALM R-040/D64.8)  
 (ATA R-041/D64.7)

②

(Rwy 23L)

**D19 ALM**

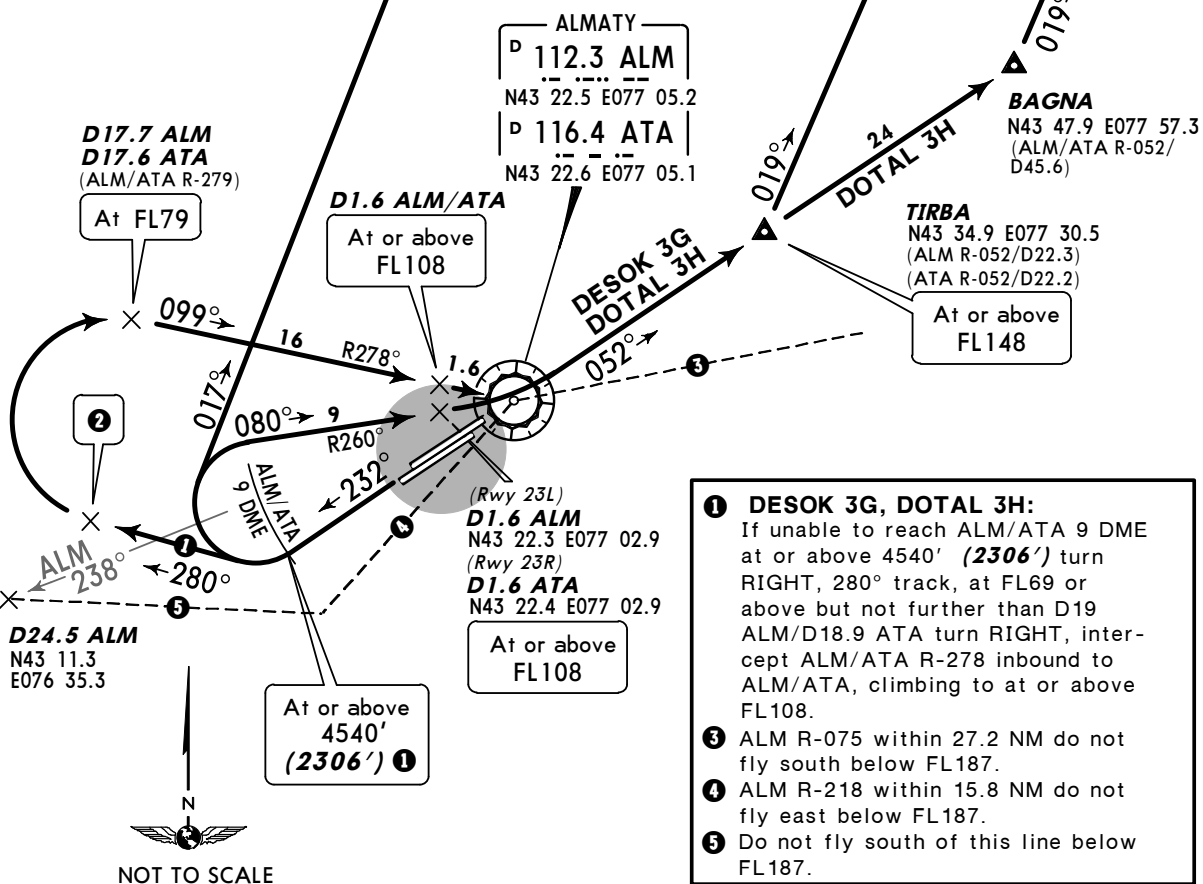
N43 20.1 E076 39.4  
 (ALM R-259)

(Rwy 23R)

**D18.9 ATA**

N43 19.9 E076 39.4  
 (ATA R-258)

At or above  
 FL69  
 but not  
 further than  
 D19 ALM/  
 D18.9 ATA

**① DESOK 3G, DOTAL 3H:**

If unable to reach ALM/ATA 9 DME at or above 4540' (**2306'**) turn RIGHT, 280° track, at FL69 or above but not further than D19 ALM/D18.9 ATA turn RIGHT, intercept ALM/ATA R-278 inbound to ALM/ATA, climbing to at or above FL108.

③ ALM R-075 within 27.2 NM do not fly south below FL187.

④ ALM R-218 within 15.8 NM do not fly east below FL187.

⑤ Do not fly south of this line below FL187.

**SID****ROUTING**

|                 |                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DESOK 3G</b> | Climb on 232° track to ALM/ATA 9 DME ①, turn RIGHT towards ALM/ATA, at D1.6 ALM/ATA, turn LEFT, 052° track to TIRBA, turn LEFT, 019° track to DESOK.          |
| <b>DOTAL 3H</b> | Climb on 232° track to ALM/ATA 9 DME ①, turn RIGHT towards ALM/ATA, at D1.6 ALM/ATA turn LEFT, 052° track via TIRBA to BAGNA, turn LEFT, 019° track to DOTAL. |
| <b>GOGDO 3H</b> | Climb on 232° track to ALM/ATA 9 DME, turn RIGHT, 017° track to GOGDO.                                                                                        |

**UAAA/ALA**  
**ALMATY**

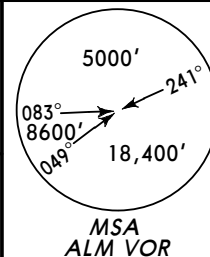
**JEPPESEN**  
11 SEP 09 **(10-3B)**

**ALMATY, KAZAKHSTAN**

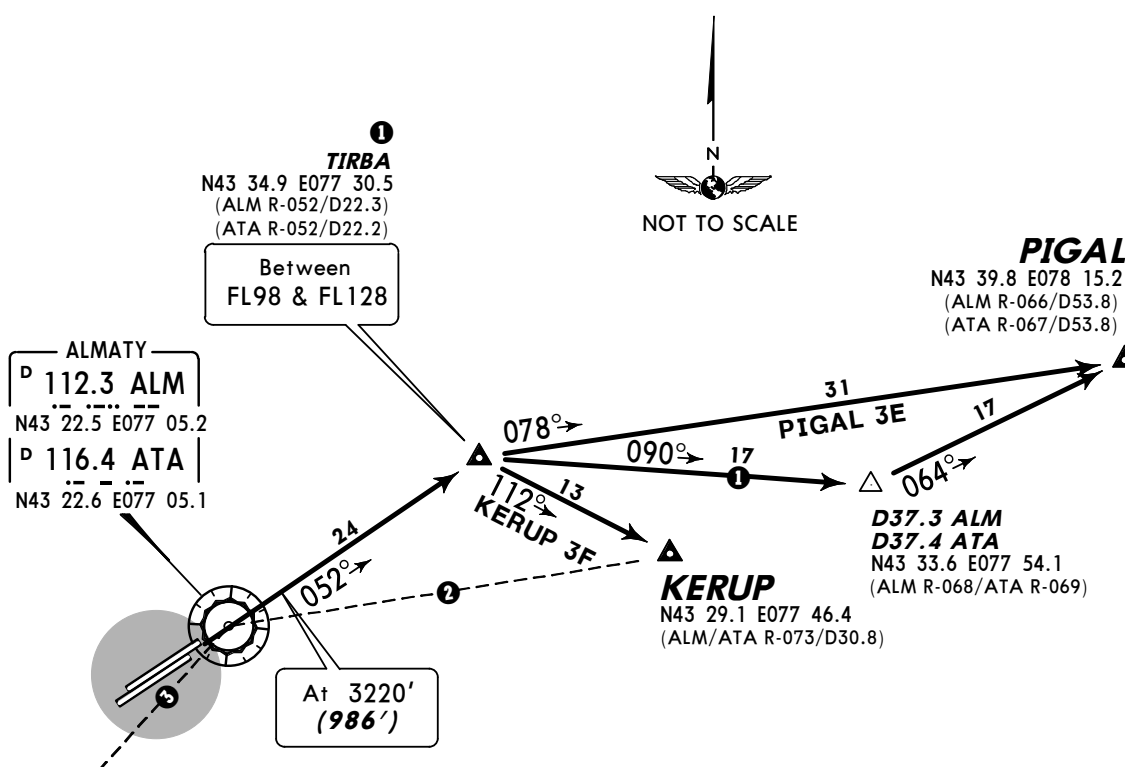
**SID**

**Apt Elev**  
**2234'**

QNH on request **(QFE)** Trans level: FL69 Trans alt: 5190' **(2956')**  
1. Turn speed: MAX 215 KT.  
2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



**KERUP 3F [KERU3F]**  
**PIGAL 3E [PIGA3E]**  
**RWYS 05L/R DEPARTURES**  
**TO EAST**



**ALT/HEIGHT CONVERSION**  
QNH **(QFE)**  
3220' **(986' - 300m)**  
5190' **(2956' - 900m)**

**FL CONVERSION**  
FL69 **FL2100m**  
FL98 **FL3000m**  
FL128 **FL3900m**  
FL187 **FL5700m**

- 2** ALM R-075 within 27.2 NM do not fly south below FL187.  
**3** ALM R-218 within 15.8 NM do not fly east below FL187.

**1 PIGAL 3E:**

This SID requires a minimum climb gradient of 425' per NM (7%) to cross TIRBA at FL98. If unable to comply contact ATC.

If unable to maintain climb gradient, after passing TIRBA turn RIGHT, 090° track to D37.3 ALM/D37.4 ATA, turn LEFT, 064° track to PIGAL.

| Gnd speed-KT | 75  | 100 | 150  | 200  | 250  | 300  |
|--------------|-----|-----|------|------|------|------|
| 425' per NM  | 532 | 709 | 1063 | 1418 | 1772 | 2127 |

**SID**

**ROUTING**

|                 |                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------|
| <b>KERUP 3F</b> | Climb straight ahead to 3220' <b>(986')</b> , 052° track to TIRBA, turn RIGHT, 112° track to KERUP. |
| <b>PIGAL 3E</b> | Climb straight ahead to 3220' <b>(986')</b> , 052° track to TIRBA, turn RIGHT, 078° track to PIGAL. |

**UAAA/ALA**  
**ALMATY**

11 SEP 09

**10-3C**

**ALMATY, KAZAKHSTAN**

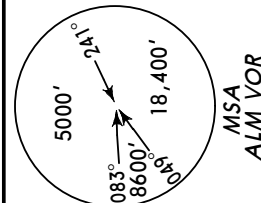
**SID**

**Apt Elev**  
**2234'**

QNH on request **(QFE)** Trans level: FL69 Trans alt: 5190' **(2956')**  
1. Turn speed: MAX 215 KT.  
2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

- 1 If unable to reach ALM/ATA 9 DME at or above 4540' **(2306')** turn RIGHT, 280° track, at FL69 or above but not further than D19 ALM/D18.9 ATA turn RIGHT, intercept ALM/ATA R-278 inbound to ALM/ATA, climbing to at or above FL108.
- 2 ALM R-075 within 27.2 NM do not fly south below FL187.
- 3 ALM R-218 within 15.8 NM do not fly east below FL187.
- 4 Do not fly south of this line below FL187.

**KERUP 3G [KERU3G]**  
**PIGAL 3H [PIGA3H]**  
**RWYS 23L/R DEPARTURES**  
**TO EAST**



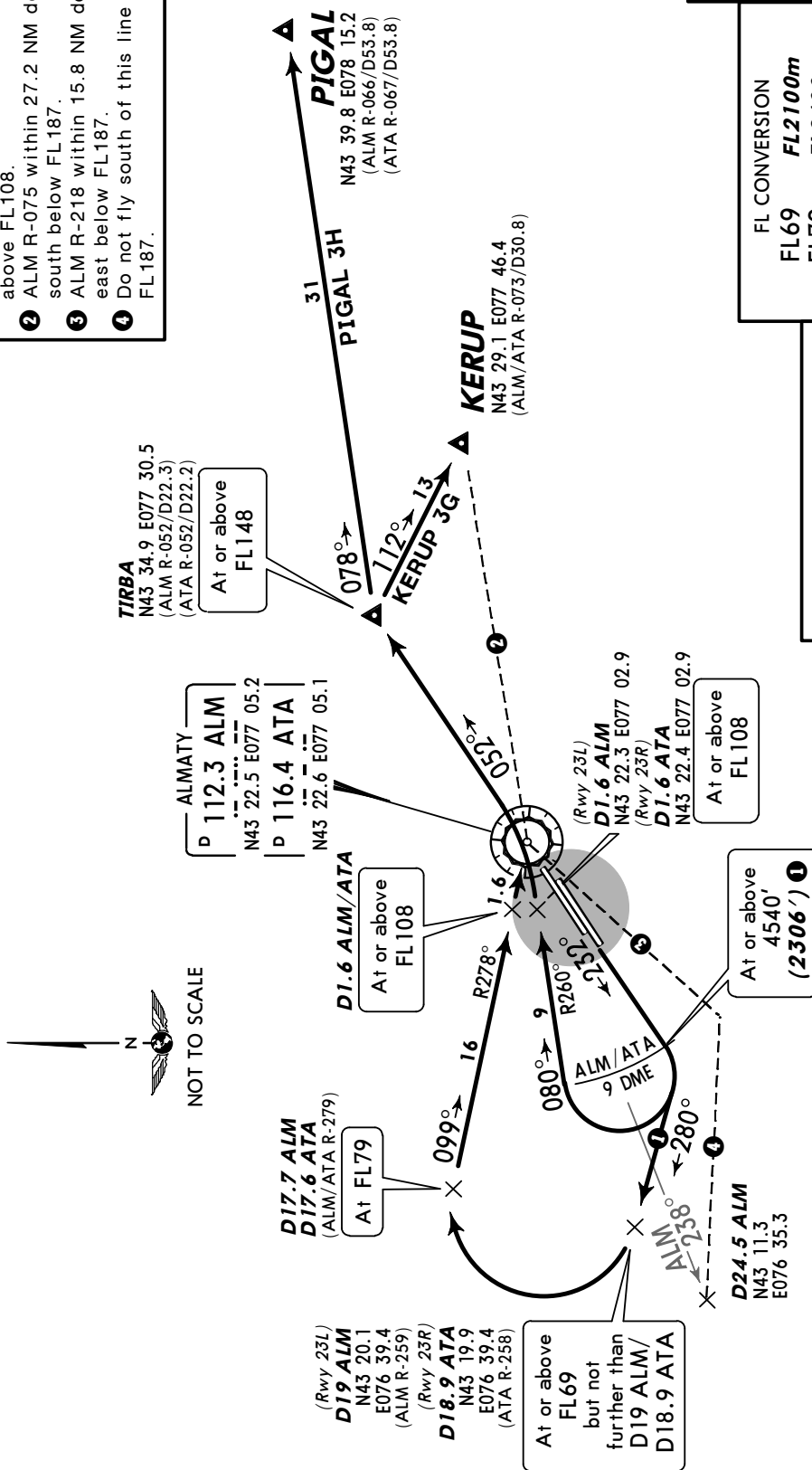
| FL CONVERSION |         |
|---------------|---------|
| FL69          | FL2100m |
| FL79          | FL2400m |
| FL108         | FL3300m |
| FL148         | FL4500m |
| FL187         | FL5700m |

| ALT/HEIGHT CONVERSION |                       |
|-----------------------|-----------------------|
| QNH                   | (QFE)                 |
| 4540'                 | <b>(2306' - 700m)</b> |
| 5190'                 | <b>(2956' - 900m)</b> |

**ROUTING**

**KERUP 3G** Climb on 232° track to ALM/ATA 9 DME ①, turn RIGHT towards ALM/ATA, at D1.6 ALM/ATA turn LEFT, 052° track to TIRBA, turn RIGHT, 112° track to KERUP.

**PIGAL 3H** Climb on 232° track to ALM/ATA 9 DME ①, turn RIGHT towards ALM/ATA, at D1.6 ALM/ATA turn LEFT, 052° track to TIRBA, turn RIGHT, 078° track to PIGAL.



**UAAA/ALA**  
**ALMATY**

**JEPPESSEN**  
 3 APR 09 **10-3D**

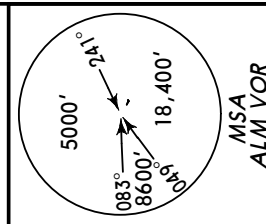
**ALMATY, KAZAKHSTAN**

**SID**

**Apt Elev**  
**2234'**

QNH on request (**QFE**) Trans level: FL69 Trans alt: 5190' (**2956'**)  
 1. Turn speed: MAX 215 KT.  
 2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

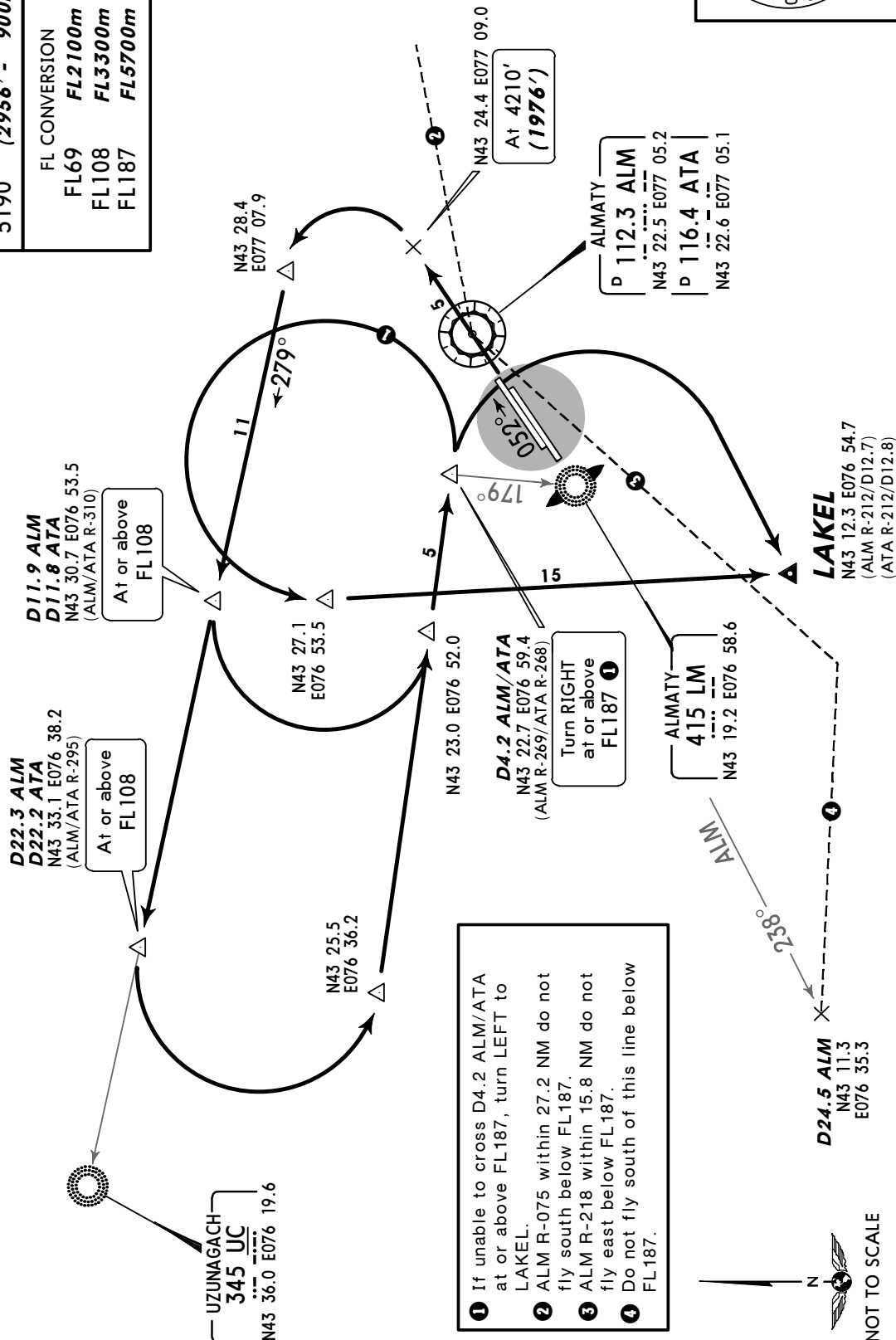
**LAKEL 3E [LAKE3E]**  
**RWYS 05L/R DEPARTURE**  
**TO SOUTH**



| ALT/HEIGHT CONVERSION<br>(QFE) |         |
|--------------------------------|---------|
| QNH                            | (QFE)   |
| 4210' (1976' - 600m)           |         |
| 5190' (2956' - 900m)           |         |
| FL CONVERSION                  |         |
| FL69                           | FL2100m |
| FL108                          | FL3300m |
| FL187                          | FL5700m |

**ROUTING**

Climb on 052° track to 4210' (1976'), turn LEFT towards UC, between D11.9 ALM/D11.8 ATA and D22.3 ALM/D22.2 ATA turn LEFT towards ALM/ATA, at or above FL187 ① turn RIGHT to LAKEL.



- ① If unable to cross D4.2 ALM/ATA at or above FL187, turn LEFT to LAKEL.
- ② ALM R-075 within 27.2 NM do not fly south below FL187.
- ③ ALM R-218 within 15.8 NM do not fly east below FL187.
- ④ Do not fly south of this line below FL187.

**NOT TO SCALE**

UAAA/ALA  
ALMATY

3 APR 09

**JEPPESEN**

10-3E

**ALMATY, KAZAKHSTAN**

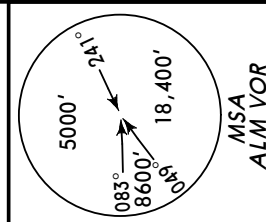
**SID**

Apt Elev  
2234'

QNH on request (QFE) Trans level: FL69 Trans alt: 5190' (2956')

1. Turn speed: MAX 215 KT.
2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

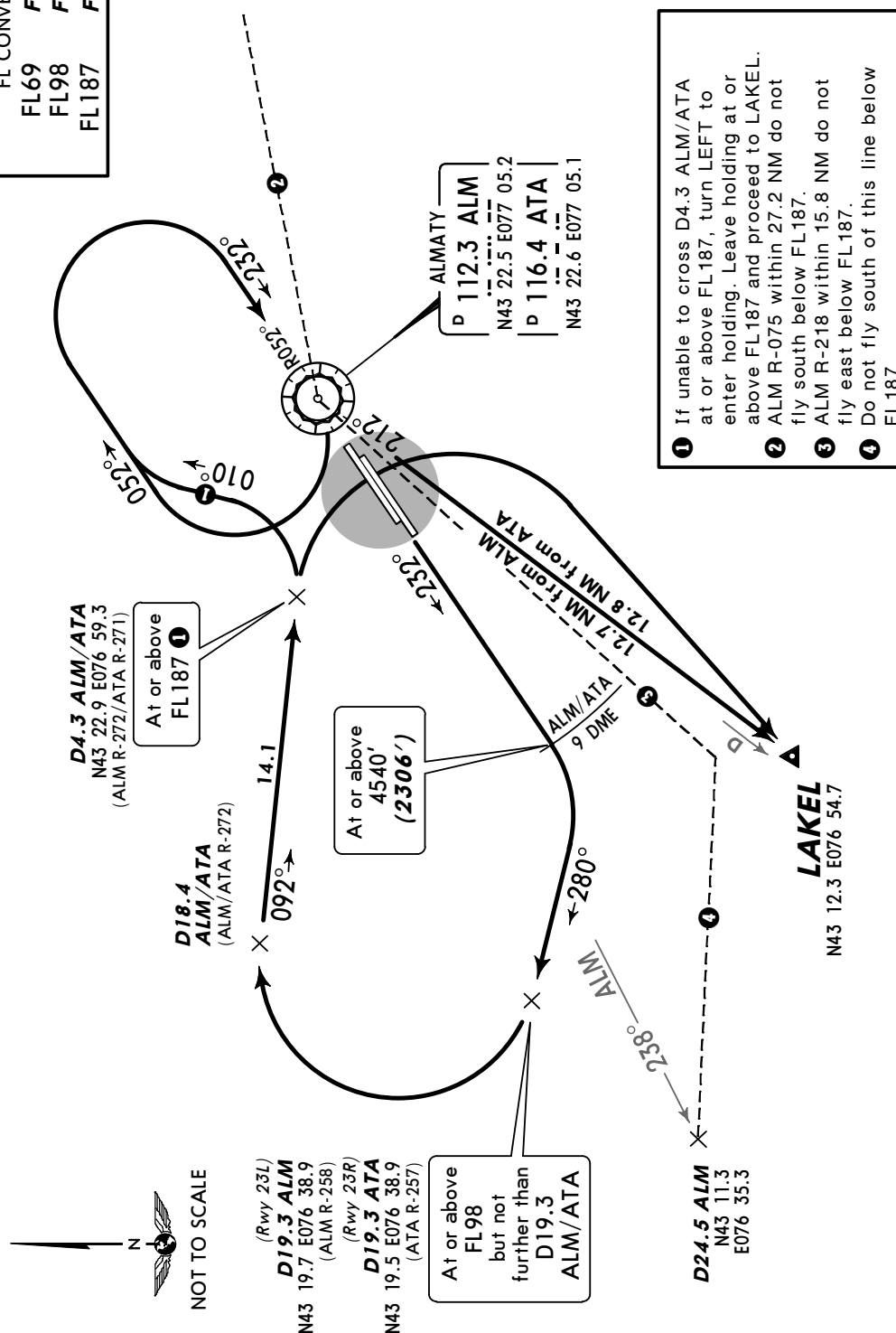
LAKEL 3G [LAKE3G]  
RWY 23L/R DEPARTURE  
TO SOUTH



| ALT/HEIGHT CONVERSION | FL CONVERSION        |
|-----------------------|----------------------|
| QNH (QFE)             | FL69 <b>FL2100m</b>  |
| 4540' (2306' - 700m)  | FL98 <b>FL3000m</b>  |
| 5190' (2956' - 900m)  | FL187 <b>FL5700m</b> |

## ROUTING

Climb on 232° track to ALM/ATA 9 DME, turn RIGHT, 280° track, at FL98 but not further than D19.3 ALM/ATA turn RIGHT, intercept ALM/ATA R-272 inbound towards ALM/ATA, at FL187 but not later than D4.3 ALM/ATA **1** turn RIGHT to LAKE.



- ➊ If unable to cross D4.3 ALM/ATA at or above FL187, turn LEFT to enter holding. Leave holding at or above FL187 and proceed to LAKELE
- ➋ ALM R-075 within 27.2 NM do not fly south below FL187.
- ➌ ALM R-218 within 15.8 NM do not fly east below FL187.
- ➍ Do not fly south of this line below FL187.

UAAA/ALA  
ALMATY

**JEPPESSEN**  
9 APR 10 (10-3F)

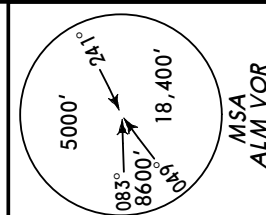
ALMATY, KAZAKHSTAN

**SID**

Apt Elev  
2234'

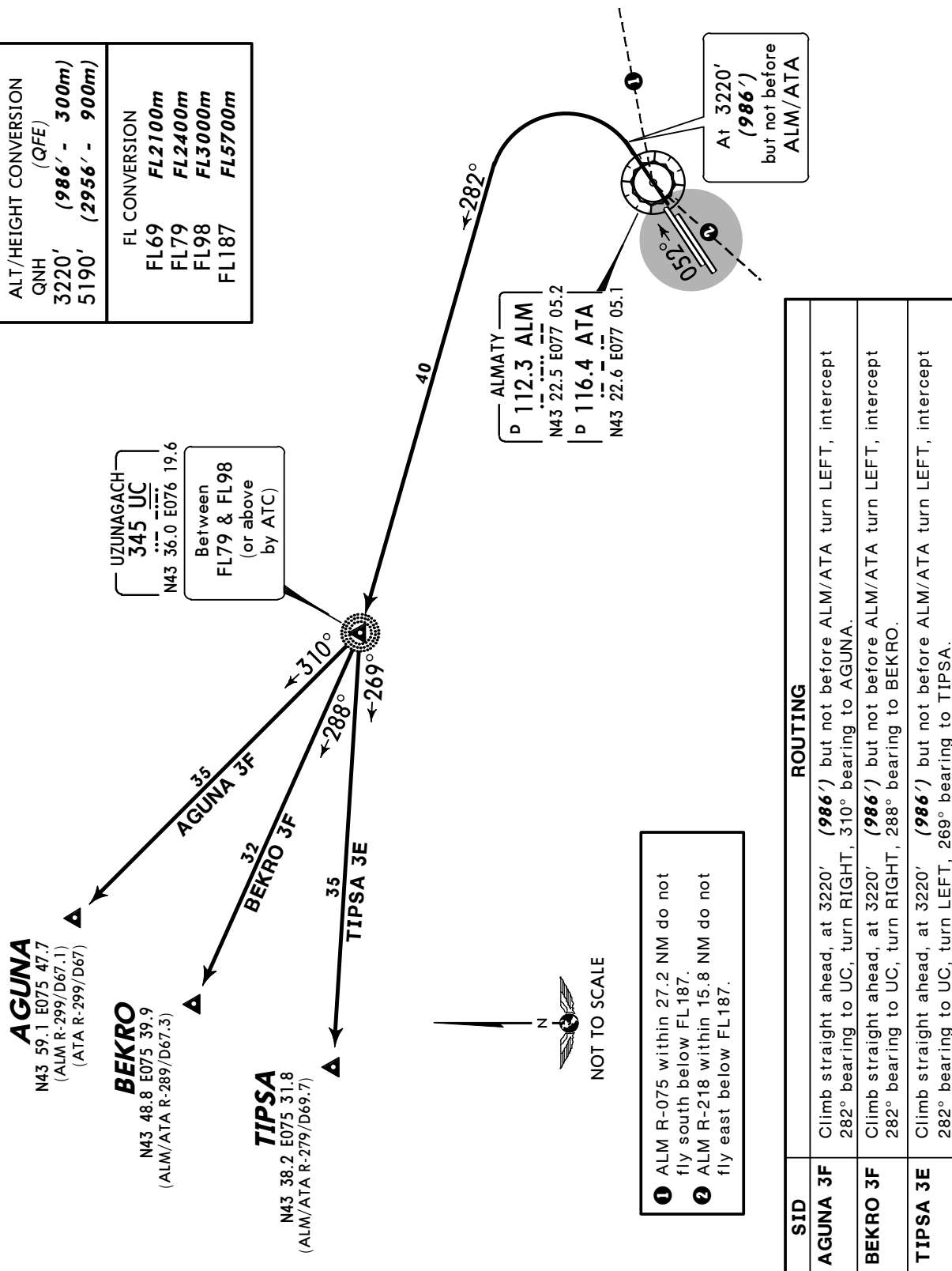
QNH on request (QFE) Trans level: FL69 Trans alt: 5190' (2956')  
1. Turn speed: MAX 215 KT.  
2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

AGUNA 3F [AGUN3F]  
BEKRO 3F [BEKR3F]  
TIPSA 3E [TIPS3E]  
RWYS 05L/R DEPARTURES  
TO WEST



ALT/HEIGHT CONVERSION  
QNH (QFE)  
3220' (986' - 300m)  
5190' (2956' - 900m)

FL CONVERSION  
FL69 FL2100m  
FL79 FL2400m  
FL98 FL3000m  
FL187 FL5700m



**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
9 APR 10 **(10-3G)**

**ALMATY, KAZAKHSTAN**

**SID**

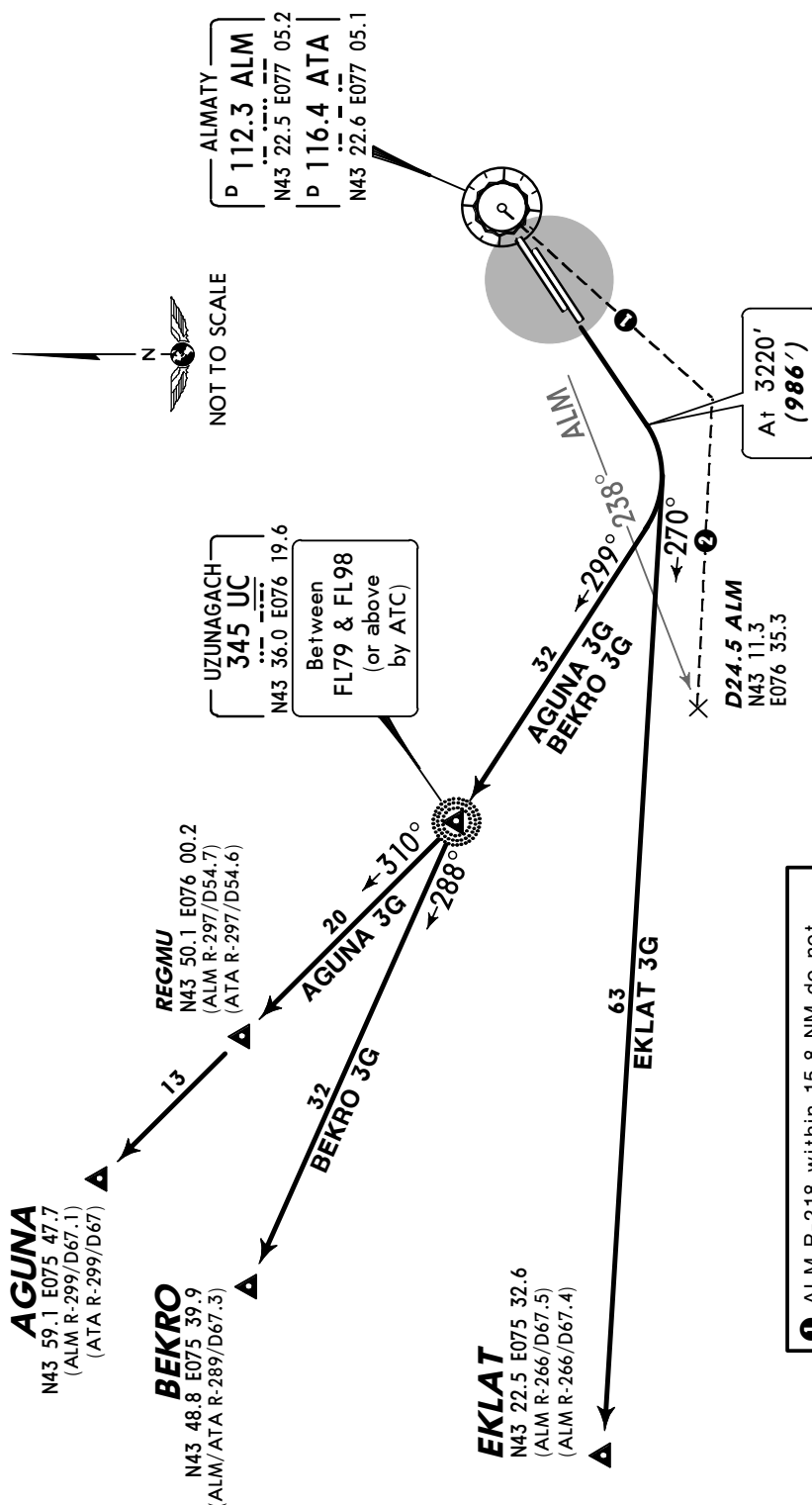
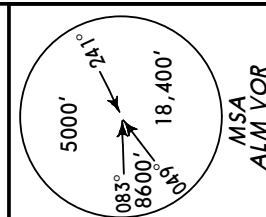
**Apt Elev**  
**2234'**

QNH on request **(QFE)** Trans level: FL69 Trans alt: 5190' **(2956')**

1. Turn speed: MAX 225 KT.

2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

**AGUNA 3G [AGUN3G]**  
**BEKRO 3G [BEKR3G]**  
**EKLAT 3G [EKLA3G]**  
**RWYS 23L/R DEPARTURES**  
**TO WEST**



**ALT/HEIGHT CONVERSION**  
**QNH**  
**(QFE)**  
3220' **(986' - 300m)**  
5190' **(2956' - 900m)**

**FL CONVERSION**  
FL69 **FL2100m**  
FL79 **FL2400m**  
FL98 **FL3000m**  
FL187 **FL5700m**

**ROUTING**

**SID**

**AGUNA 3G** Climb straight ahead to 3220' **(986')**, turn RIGHT, intercept 299° bearing to UC, turn RIGHT, 310° bearing via REGMU to AGUNA.

**BEKRO 3G** Climb straight ahead to 3220' **(986')**, turn RIGHT, intercept 299° bearing to UC, turn LEFT, 288° bearing to BEKRO.

**EKLAT 3G** Climb straight ahead to 3220' **(986')**, turn RIGHT, 270° track to EKLAT.

- 1 ALM R-218 within 15.8 NM do not fly east below FL187.
- 2 Do not fly south of this line below FL187.

**UAAA/ALA**  
**ALMATY**

18 JUN 10

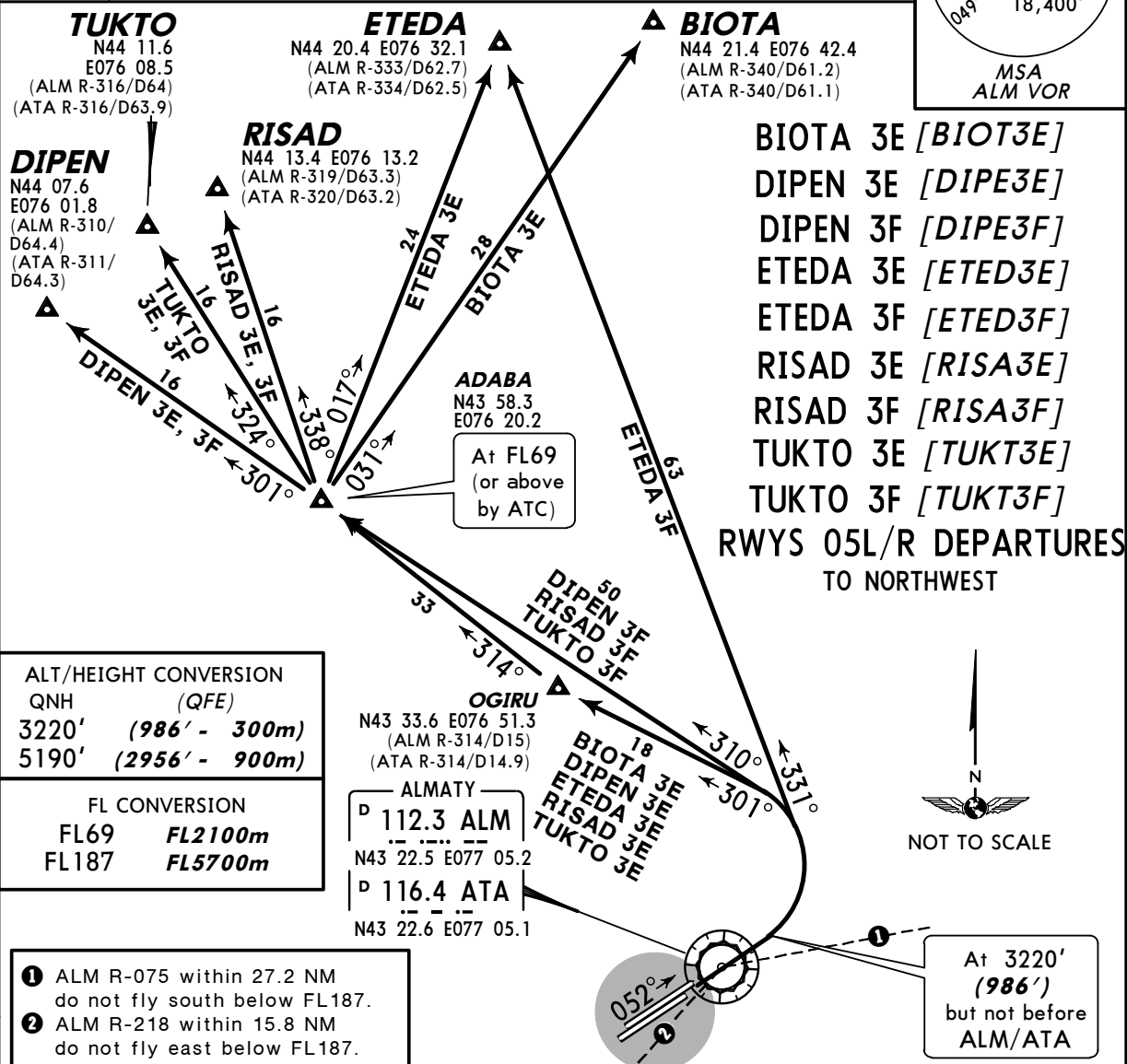
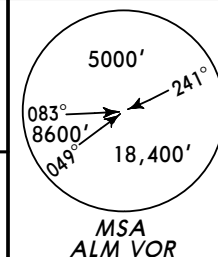
(10-3H)

**ALMATY, KAZAKHSTAN****SID****Apt Elev**  
**2234'**

QNH on request (**QFE**) Trans level: FL69 Trans alt: 5190' (**2956'**)

1. Turn speed: MAX 215 KT.

2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



| SID             | ROUTING                                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BIOTA 3E</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 301° track to OGIRU, turn RIGHT, 314° track to ADABA, turn RIGHT, 031° track to BIOTA. |
| <b>DIPEN 3E</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 301° track to OGIRU, turn RIGHT, 314° track to ADABA, turn LEFT, 301° track to DIPEN.  |
| <b>DIPEN 3F</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 310° track to ADABA, turn LEFT, 301° track to DIPEN.                                   |
| <b>ETEDA 3E</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 301° track to OGIRU, turn RIGHT, 314° track to ADABA, turn RIGHT, 017° track to ETEDA. |
| <b>ETEDA 3F</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 331° track to ETEDA.                                                                   |
| <b>RISAD 3E</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 301° track to OGIRU, turn RIGHT, 314° track to ADABA, turn RIGHT, 338° track to RISAD. |
| <b>RISAD 3F</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 310° track to ADABA, turn RIGHT, 338° track to RISAD.                                  |
| <b>TUKTO 3E</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 301° track to OGIRU, turn RIGHT, 314° track to ADABA, turn RIGHT, 324° track to TUKTO. |
| <b>TUKTO 3F</b> | Climb straight ahead, at 3220' ( <b>986'</b> ) but not before ALM/ATA turn LEFT, 310° track to ADABA, turn RIGHT, 324° track to TUKTO.                                  |

**UAAA/ALA**  
**ALMATY**

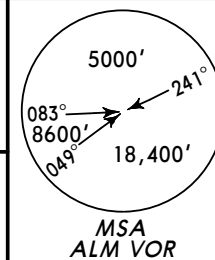
**JEPPESEN**  
 18 JUN 10 **(10-3J)**

**ALMATY, KAZAKHSTAN**

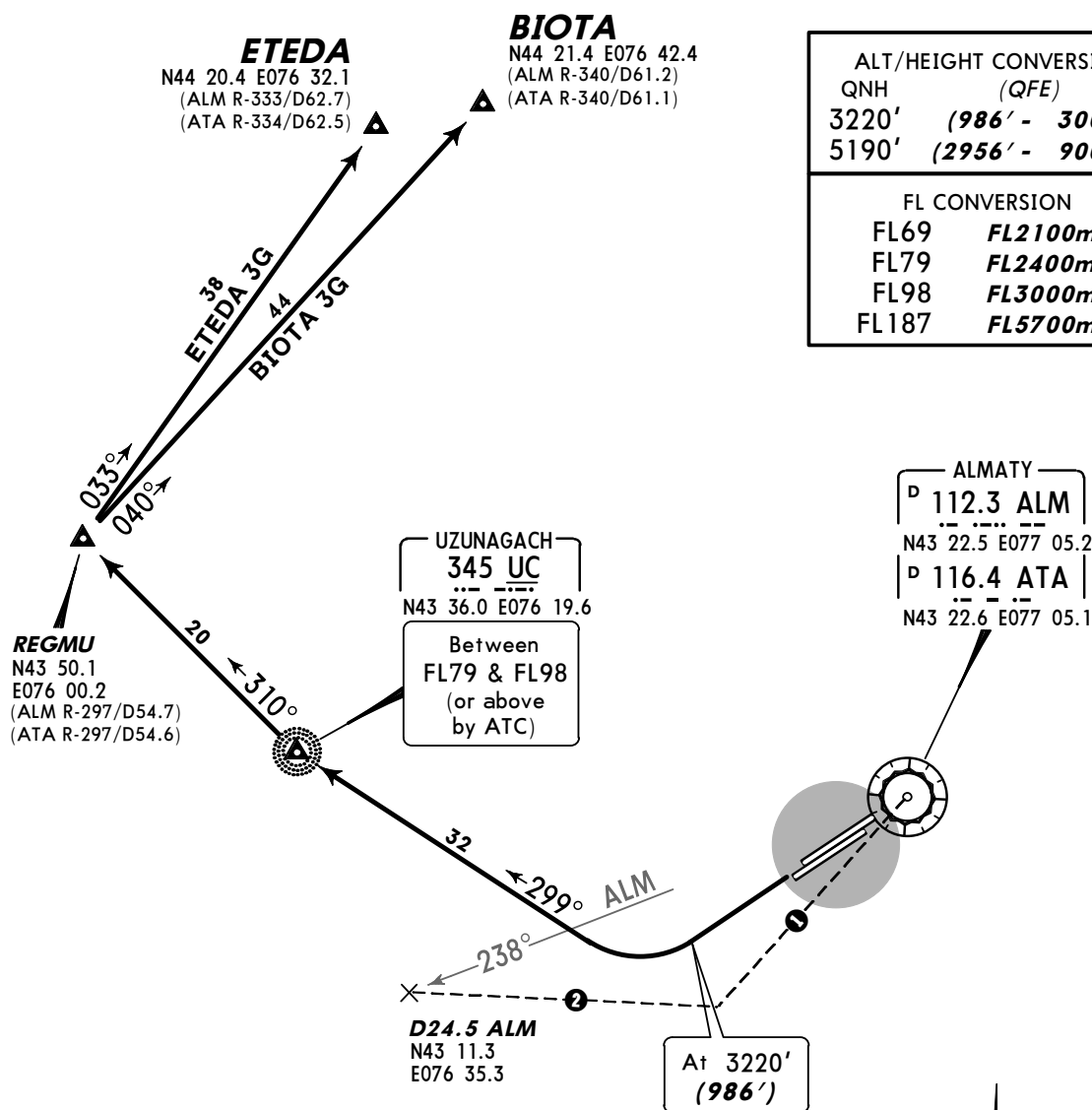
**SID**

**Apt Elev**  
**2234'**

QNH on request (**QFE**) Trans level: FL69 Trans alt: 5190' (**2956'**)  
 1. Turn speed: MAX 225 KT.  
 2. Radio interference may arise during departure of aircraft equipped with VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



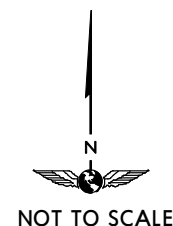
**BIOTA 3G [BIOT3G]**  
**ETEDA 3G [ETED3G]**  
**RWYS 23L/R DEPARTURES**  
**TO NORTHWEST**



| ALT/HEIGHT CONVERSION |                |
|-----------------------|----------------|
| QNH                   | (QFE)          |
| 3220'                 | (986' - 300m)  |
| 5190'                 | (2956' - 900m) |

| FL CONVERSION |         |
|---------------|---------|
| FL69          | FL2100m |
| FL79          | FL2400m |
| FL98          | FL3000m |
| FL187         | FL5700m |

- ① ALM R-218 within 15.8 NM do not fly east below FL187.
- ② Do not fly south of this line below FL187.



| SID             | ROUTING                                                                                                                                                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BIOTA 3G</b> | Climb straight ahead to 3220' ( <b>986'</b> ), turn RIGHT, intercept 299° bearing to UC, turn RIGHT, 310° bearing to REGMU, turn RIGHT, 040° track to BIOTA. |
| <b>ETEDA 3G</b> | Climb straight ahead to 3220' ( <b>986'</b> ), turn RIGHT, intercept 299° bearing to UC, turn RIGHT, 310° bearing to REGMU, turn RIGHT, 033° track to ETEDA. |

UAAA/ALA

*Apt Elev* **2234'**  
N43 21.3 E077 02.6

**JEPPESEN**

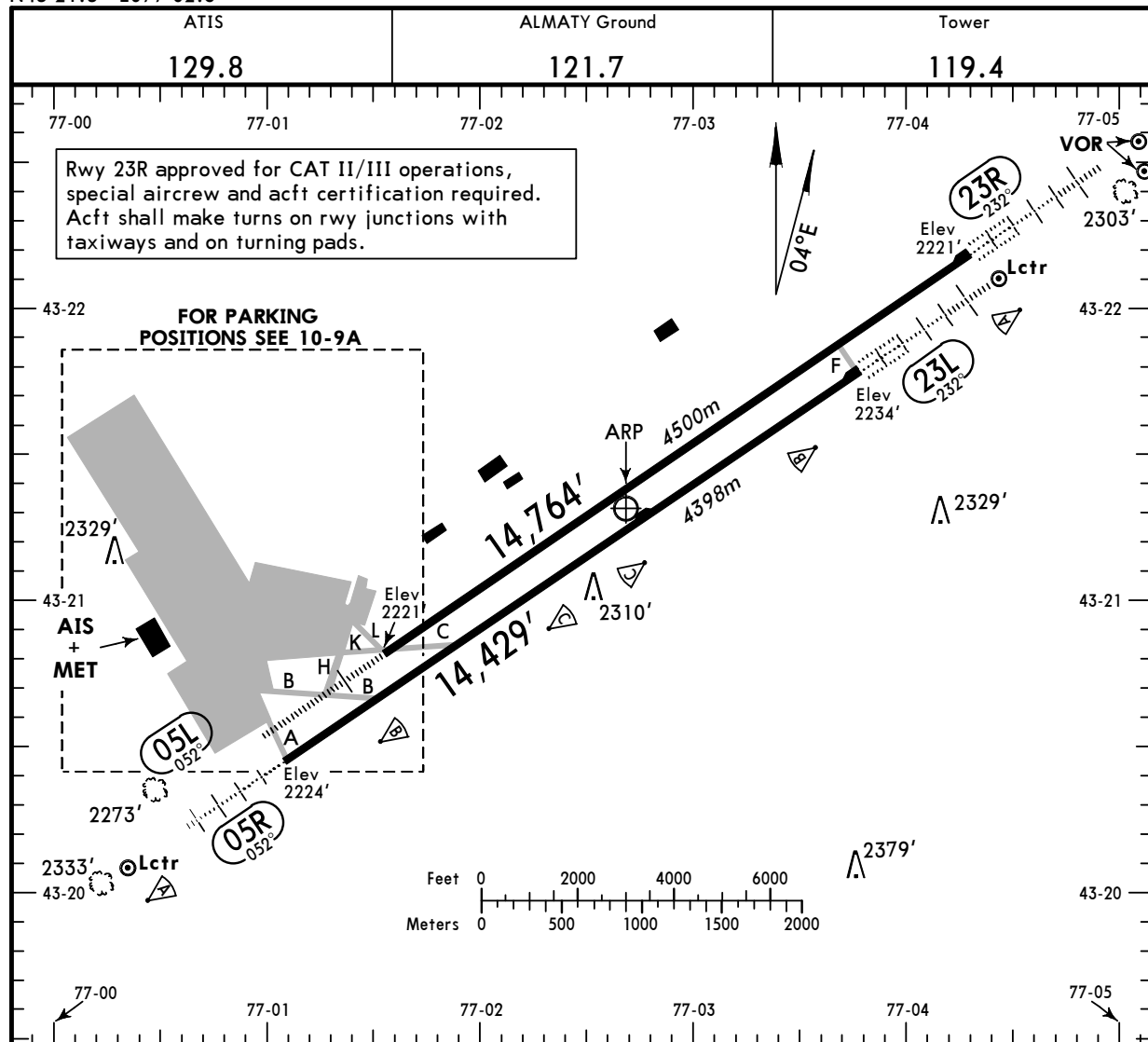
1 APR 11

10-9

**Eff 7 Apr**

**ALMATY, KAZAKHSTAN**

ALMATY



| ADDITIONAL RUNWAY INFORMATION |                                               |                |               |          |       |
|-------------------------------|-----------------------------------------------|----------------|---------------|----------|-------|
| RWY                           |                                               | USABLE LENGTHS |               | TAKE-OFF | WIDTH |
|                               |                                               | Threshold      | Glide Slope   |          |       |
| 05L                           | HIRL (60m) CL (15m) HIALS PAPI-L ① RVR        |                | 13,792' 4204m |          | 148'  |
| 23R                           | HIRL (60m) CL (15m) HIALS-II TDZ PAPI-L ① RVR |                | 13,853' 4222m |          | 45m   |
| 05R                           | HIRL (60m) HIALS PAPI-L (3.00°) RVR           |                | 13,396' 4083m |          | 148'  |
| 23L                           | HIRL (60m) HIALS-II PAPI-L (2.67°) RVR        |                | 13,335' 4064m |          | 45m   |
|                               |                                               |                |               |          |       |
|                               |                                               |                |               |          |       |

① angle  $3.00^\circ$ .

| TAKE-OFF                      |                      |      |             |                      |      |         |      |      |      |
|-------------------------------|----------------------|------|-------------|----------------------|------|---------|------|------|------|
| AIR CARRIER (JAA)<br>All Rwys |                      |      |             |                      |      |         |      |      |      |
|                               | DAY                  |      |             | NIGHT                |      |         |      |      |      |
|                               | LVP must be in force |      |             | LVP must be in force |      |         |      |      |      |
|                               | RL & CL              | RL   | RCLM        | RL                   | RCLM | RL & CL | RL   | RL   |      |
| A                             | 200m                 | 300m | 300m        | 400m                 | 400m | 200m    | 300m | 400m |      |
| B                             |                      |      |             |                      |      |         |      |      |      |
| C                             |                      |      |             |                      |      |         |      |      |      |
| D                             |                      |      | 250m (200m) |                      |      |         | 500m |      | 500m |

**CHANGES:** Rwy length.

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UAAA/ALA

1 APR 11

**JEPPESEN**

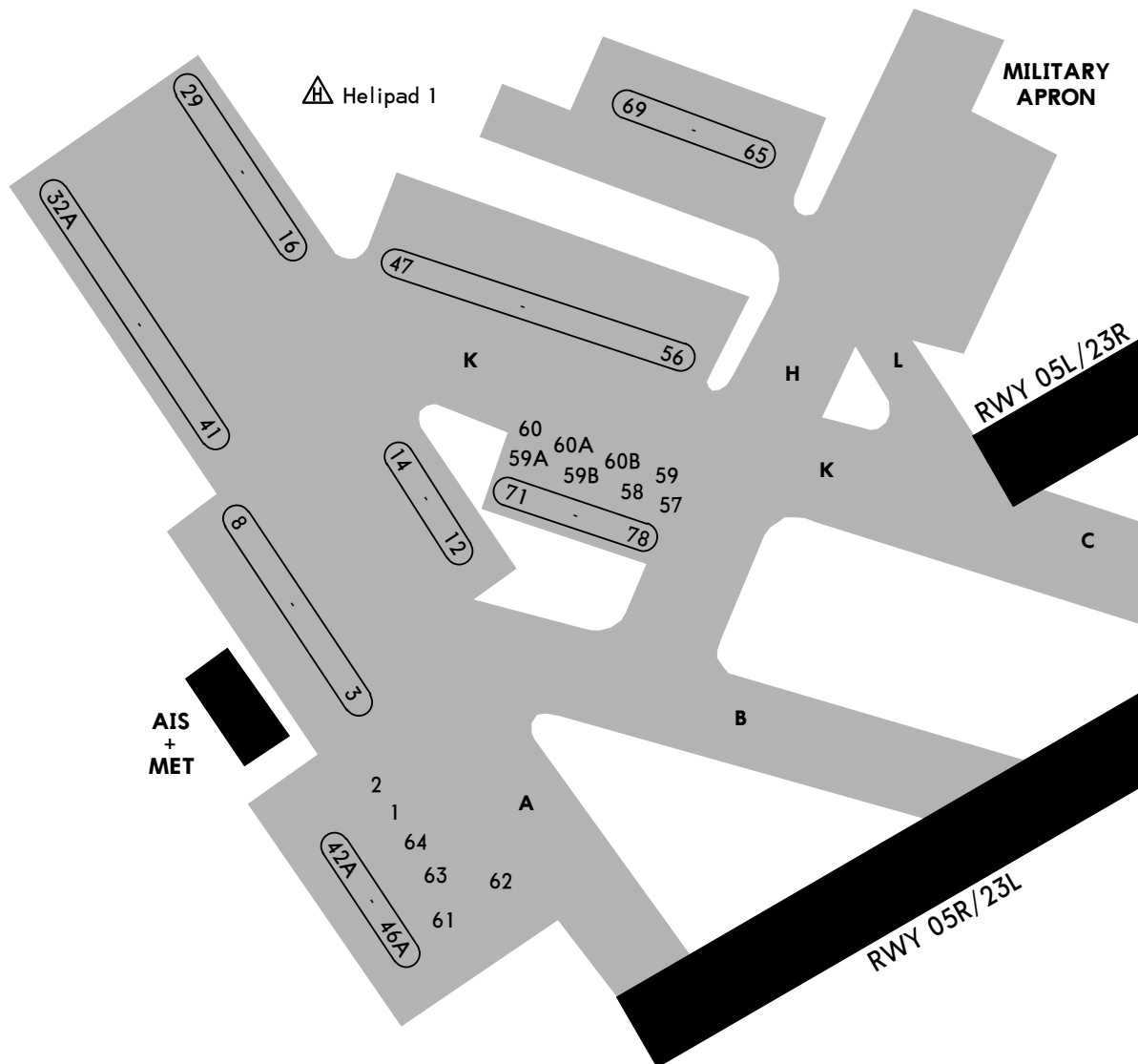
(10-9A)

Eff 7 Apr

ALMATY, KAZAKHSTAN

ALMATY

NOT TO SCALE



### INS COORDINATES

| STAND No. | COORDINATES        |
|-----------|--------------------|
| 1, 2      | N43 20.7 E077 00.9 |
| 5, 6      | N43 20.8 E077 00.8 |
| 12, 13    | N43 20.8 E077 00.9 |
| 14        | N43 20.8 E077 00.8 |
| 57        | N43 20.8 E077 01.3 |
| 58, 59    | N43 20.8 E077 01.2 |
| 60        | N43 20.8 E077 01.1 |
| 65, 66    | N43 21.1 E077 01.2 |
| 67, 68    | N43 21.1 E077 01.3 |

Start-up of engines on stands 3 thru 8 prohibited. Acft should start engines after towing to apron centerline or on stands 12 thru 14. Stands 43A, 61 and 62 available for helicopters.

**UAAA/ALA** **JEPPESEN**  
11 MAR 11 **10-9S****Standard**  
**ALMATY, KAZAKHSTAN**  
**ALMATY**

| <b>STRAIGHT-IN RWY</b> |                | <b>A</b>                            | <b>B</b>                            | <b>C</b>                            | <b>D</b>                            |
|------------------------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <b>05L</b>             | ILS            | <b>2421' (200')</b><br><b>800m</b>  | <b>2421' (200')</b><br><b>800m</b>  | <b>2421' (200')</b><br><b>800m</b>  | <b>2421' (200')</b><br><b>800m</b>  |
|                        | <i>ALS out</i> | 1200m                               | 1200m                               | 1200m                               | 1200m                               |
|                        | LOC            | NOT<br>AUTH                         | NOT<br>AUTH                         | NOT<br>AUTH                         | NOT<br>AUTH                         |
|                        | VOR ❶          | <b>3080' (859')</b><br><b>3000m</b> | <b>3080' (859')</b><br><b>3000m</b> | <b>3210' (989')</b><br><b>5000m</b> | <b>3210' (989')</b><br><b>5000m</b> |
| <b>05R</b>             | ILS            | <b>2424' (200')</b><br><b>1000m</b> | <b>2424' (200')</b><br><b>1000m</b> | <b>2424' (200')</b><br><b>1000m</b> | <b>2424' (200')</b><br><b>1000m</b> |
|                        | <i>ALS out</i> | 1200m                               | 1200m                               | 1200m                               | 1200m                               |
|                        | LOC            | NOT<br>AUTH                         | NOT<br>AUTH                         | NOT<br>AUTH                         | NOT<br>AUTH                         |
|                        | VOR ❶          | <b>3080' (856')</b><br><b>3000m</b> | <b>3080' (856')</b><br><b>3000m</b> | <b>3210' (986')</b><br><b>5000m</b> | <b>3210' (986')</b><br><b>5000m</b> |
|                        | NDB ❶❷         | <b>2620' (396')</b><br><b>1800m</b> | <b>2620' (396')</b><br><b>1800m</b> | <b>2620' (396')</b><br><b>1800m</b> | <b>2620' (396')</b><br><b>1800m</b> |
|                        | NDB ❶❸         | <b>2960' (736')</b><br><b>1800m</b> | <b>2960' (736')</b><br><b>1800m</b> | <b>2960' (736')</b><br><b>2400m</b> | <b>2960' (736')</b><br><b>2400m</b> |
| <b>23L</b>             | ILS            | <b>2434' (200')</b><br><b>550m</b>  | <b>2434' (200')</b><br><b>550m</b>  | <b>2434' (200')</b><br><b>550m</b>  | <b>2434' (200')</b><br><b>550m</b>  |
|                        | <i>FULL</i>    | 750m                                | 750m                                | 750m                                | 750m                                |
|                        | <i>Limited</i> | 1200m                               | 1200m                               | 1200m                               | 1200m                               |
|                        | <i>ALS out</i> | 1200m                               | 1200m                               | 1200m                               | 1200m                               |
|                        | LOC            | NOT<br>AUTH                         | NOT<br>AUTH                         | NOT<br>AUTH                         | NOT<br>AUTH                         |
|                        | VOR ❶          | <b>2890' (656')</b><br><b>2500m</b> | <b>2890' (656')</b><br><b>2500m</b> | <b>3220' (986')</b><br><b>5000m</b> | <b>3220' (986')</b><br><b>5000m</b> |
|                        | NDB ❶❷❹        | <b>2590' (356')</b><br><b>1500m</b> | <b>2590' (356')</b><br><b>1500m</b> | <b>2590' (356')</b><br><b>1500m</b> | <b>2590' (356')</b><br><b>1500m</b> |
|                        | <i>ALS out</i> | 1500m                               | 1500m                               | 1600m                               | 1600m                               |
|                        | NDB ❶❷❸        | <b>2590' (356')</b><br><b>1500m</b> | <b>2590' (356')</b><br><b>1500m</b> | <b>2590' (356')</b><br><b>1500m</b> | <b>2590' (356')</b><br><b>1500m</b> |
|                        | <i>ALS out</i> | 1600m                               | 1600m                               | 1600m                               | 1600m                               |
|                        | NDB ❶❸❹        | <b>2620' (386')</b><br><b>1500m</b> | <b>2620' (386')</b><br><b>1500m</b> | <b>2620' (386')</b><br><b>1500m</b> | <b>2620' (386')</b><br><b>1500m</b> |
|                        | <i>ALS out</i> | 1500m                               | 1500m                               | 1800m                               | 1800m                               |
|                        | NDB ❸❹         | <b>2620' (386')</b><br><b>1500m</b> | <b>2620' (386')</b><br><b>1500m</b> | <b>2620' (386')</b><br><b>1500m</b> | <b>2620' (386')</b><br><b>1500m</b> |
|                        | <i>ALS out</i> | 2000m                               | 2000m                               | 2200m                               | 2200m                               |

❶ Continuous Descent Final Approach.

❷ with LOM.

❸ w/o LOM.

❹ with FMS.

❺ w/o FMS.

**UAAA/ALA** **JEPPESEN**  
11 MAR 11 **(10-9S1)****Standard**  
**ALMATY, KAZAKHSTAN**  
**ALMATY**

| STRAIGHT-IN RWY |                | A                                  | B                                  | C                                  | D                                  |
|-----------------|----------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <b>23R</b>      | CAT 3A ILS     | <b>RA50' 200m</b>                  | <b>RA50' 200m</b>                  | <b>RA50' 200m</b>                  | <b>RA50' 200m</b>                  |
|                 | CAT 2 ILS      | <b>2321'(100')</b>                 | <b>2321'(100')</b>                 | <b>2321'(100')</b>                 | <b>2321'(100')</b>                 |
|                 |                | <b>RA105' 350m</b>                 | <b>RA105' 350m</b>                 | <b>RA105' 350m</b>                 | <b>RA105' 350m</b>                 |
|                 | ILS            | <b>2421'(200')</b>                 | <b>2421'(200')</b>                 | <b>2421'(200')</b>                 | <b>2421'(200')</b>                 |
|                 | <i>FULL</i>    | <b>550m</b>                        | <b>550m</b>                        | <b>550m</b>                        | <b>550m</b>                        |
|                 | <i>Limited</i> | 750m                               | 750m                               | 750m                               | 750m                               |
|                 | <i>ALS out</i> | 1200m                              | 1200m                              | 1200m                              | 1200m                              |
|                 | LOC            | NOT AUTH                           | NOT AUTH                           | NOT AUTH                           | NOT AUTH                           |
|                 | VOR ❶          | <b>2880'(659')</b><br><b>2500m</b> | <b>2880'(659')</b><br><b>2500m</b> | <b>3210'(989')</b><br><b>5000m</b> | <b>3210'(989')</b><br><b>5000m</b> |

❶ Continuous Descent Final Approach.

**TAKE-OFF RWY 05L/R, 23L/R**

| LVP must be in Force   |             |             |               |               |             |               |
|------------------------|-------------|-------------|---------------|---------------|-------------|---------------|
| RL, CL & mult. RVR req |             | RL & CL     | RL            | RCLM          | RL          | RCLM NIL      |
| <b>A</b>               | <b>200m</b> | <b>200m</b> | <b>300m</b>   | <b>300m</b>   | <b>400m</b> | <b>400m</b>   |
| <b>B</b>               |             |             | <b>300m ❷</b> | <b>500m ❸</b> |             | <b>500m</b>   |
| <b>C</b>               |             | <b>250m</b> |               |               |             | <b>500m ❸</b> |
| <b>D</b>               |             |             |               |               |             |               |

❷ NIGHT: 400m.

❸ NIGHT: 700m.

**UAAA/ALA** **JEPPESEN**  
11 MAR 11 **10-9X****JAA MINIMUMS**  
**ALMATY, KAZAKHSTAN**  
ALMATY

| STRAIGHT-IN RWY |                | A                   | B                   | C                   | D                   |
|-----------------|----------------|---------------------|---------------------|---------------------|---------------------|
| 05L             | ILS            | <b>2421' (200')</b> | <b>2421' (200')</b> | <b>2421' (200')</b> | <b>2421' (200')</b> |
|                 |                | <b>800m</b>         | <b>800m</b>         | <b>800m</b>         | <b>800m</b>         |
|                 | <i>ALS out</i> | 1000m               | 1000m               | 1000m               | 1000m               |
|                 | LOC            | NOT AUTHORIZED      |                     |                     |                     |
|                 | VOR            | <b>3080' (859')</b> | <b>3080' (859')</b> | <b>3210' (989')</b> | <b>3210' (989')</b> |
|                 |                | <b>3000m</b>        | <b>3000m</b>        | <b>5000m</b>        | <b>5000m</b>        |
| 05R             | ILS            | <b>2424' (200')</b> | <b>2424' (200')</b> | <b>2424' (200')</b> | <b>2424' (200')</b> |
|                 |                | <b>1000m</b>        | <b>1000m</b>        | <b>1000m</b>        | <b>1000m</b>        |
|                 | LOC            | NOT AUTHORIZED      |                     |                     |                     |
|                 | VOR            | <b>3080' (856')</b> | <b>3080' (856')</b> | <b>3210' (986')</b> | <b>3210' (986')</b> |
|                 |                | <b>3000m</b>        | <b>3000m</b>        | <b>5000m</b>        | <b>5000m</b>        |
|                 | NDB with LOM   | <b>2620' (396')</b> | <b>2620' (396')</b> | <b>2620' (396')</b> | <b>2620' (396')</b> |
|                 |                | <b>1800m</b>        | <b>1800m</b>        | <b>1800m</b>        | <b>1800m</b>        |
|                 | <i>ALS out</i> | 1800m               | 1800m               | 1800m               | 2000m               |
|                 | NDB w/o LOM    | <b>2960' (736')</b> | <b>2960' (736')</b> | <b>2960' (736')</b> | <b>2960' (736')</b> |
|                 |                | <b>1800m</b>        | <b>1800m</b>        | <b>1800m</b>        | <b>1800m</b>        |
|                 | <i>ALS out</i> | 1800m               | 1800m               | 2000m               | 2000m               |
| 23L             | ILS            | <b>2434' (200')</b> | <b>2434' (200')</b> | <b>2434' (200')</b> | <b>2434' (200')</b> |
|                 |                | <b>550m</b>         | <b>550m</b>         | <b>550m</b>         | <b>550m</b>         |
|                 | <i>ALS out</i> | 1000m               | 1000m               | 1000m               | 1000m               |
|                 | LOC            | NOT AUTHORIZED      |                     |                     |                     |
|                 | VOR            | <b>2890' (656')</b> | <b>2890' (656')</b> | <b>3220' (986')</b> | <b>3220' (986')</b> |
|                 |                | <b>2500m</b>        | <b>2500m</b>        | <b>5000m</b>        | <b>5000m</b>        |
|                 | NDB with LOM   | <b>2570' (336')</b> | <b>2570' (336')</b> | <b>2570' (336')</b> | <b>2570' (336')</b> |
|                 | NDB w/o LOM    | <b>2620' (386')</b> | <b>2620' (386')</b> | <b>2620' (386')</b> | <b>2620' (386')</b> |
|                 |                | <b>1500m</b>        | <b>1500m</b>        | <b>1500m</b>        | <b>1500m</b>        |
|                 | <i>ALS out</i> | 1500m               | 1500m               | 1800m               | 2000m               |
| 23R             | CAT 3A ILS     | <b>RA50' 200m</b>   | <b>RA50' 200m</b>   | <b>RA50' 200m</b>   | <b>RA50' 200m</b>   |
|                 | CAT 2 ILS      | <b>2321' (100')</b> | <b>2321' (100')</b> | <b>2321' (100')</b> | <b>2321' (100')</b> |
|                 |                | <b>RA105' 350m</b>  | <b>RA105' 350m</b>  | <b>RA105' 350m</b>  | <b>RA105' 350m</b>  |
|                 | ILS            | <b>2421' (200')</b> | <b>2421' (200')</b> | <b>2421' (200')</b> | <b>2421' (200')</b> |
|                 |                | <b>550m</b>         | <b>550m</b>         | <b>550m</b>         | <b>550m</b>         |
|                 | <i>ALS out</i> | 1000m               | 1000m               | 1000m               | 1000m               |
|                 | LOC            | NOT AUTHORIZED      |                     |                     |                     |
|                 | VOR            | <b>2880' (659')</b> | <b>2880' (659')</b> | <b>3210' (989')</b> | <b>3210' (989')</b> |
|                 |                | <b>2500m</b>        | <b>2500m</b>        | <b>5000m</b>        | <b>5000m</b>        |

**UAAA/ALA**

**JEPPESEN**  
11 MAR 11 **10-9X1**

**JAA MINIMUMS**  
**ALMATY, KAZAKHSTAN**  
**ALMATY**

**TAKE-OFF RWY 05L/R, 23L/R**

| LVP must be in Force      |         |      |                    |      |                    |                   |
|---------------------------|---------|------|--------------------|------|--------------------|-------------------|
| RL, CL<br>& mult. RVR req | RL & CL | RL   | RCLM<br>(DAY only) | RL   | RCLM<br>(DAY only) | NIL<br>(DAY only) |
| <b>A</b>                  | 200m    | 200m | 300m               | 400m | 400m               | 500m              |
| <b>B</b>                  |         |      | 300m               |      | 500m               |                   |
| <b>C</b>                  |         | 250m | 300m ❶             |      |                    |                   |
| <b>D</b>                  |         |      | 500m               |      |                    |                   |

❶ NIGHT: 400m.

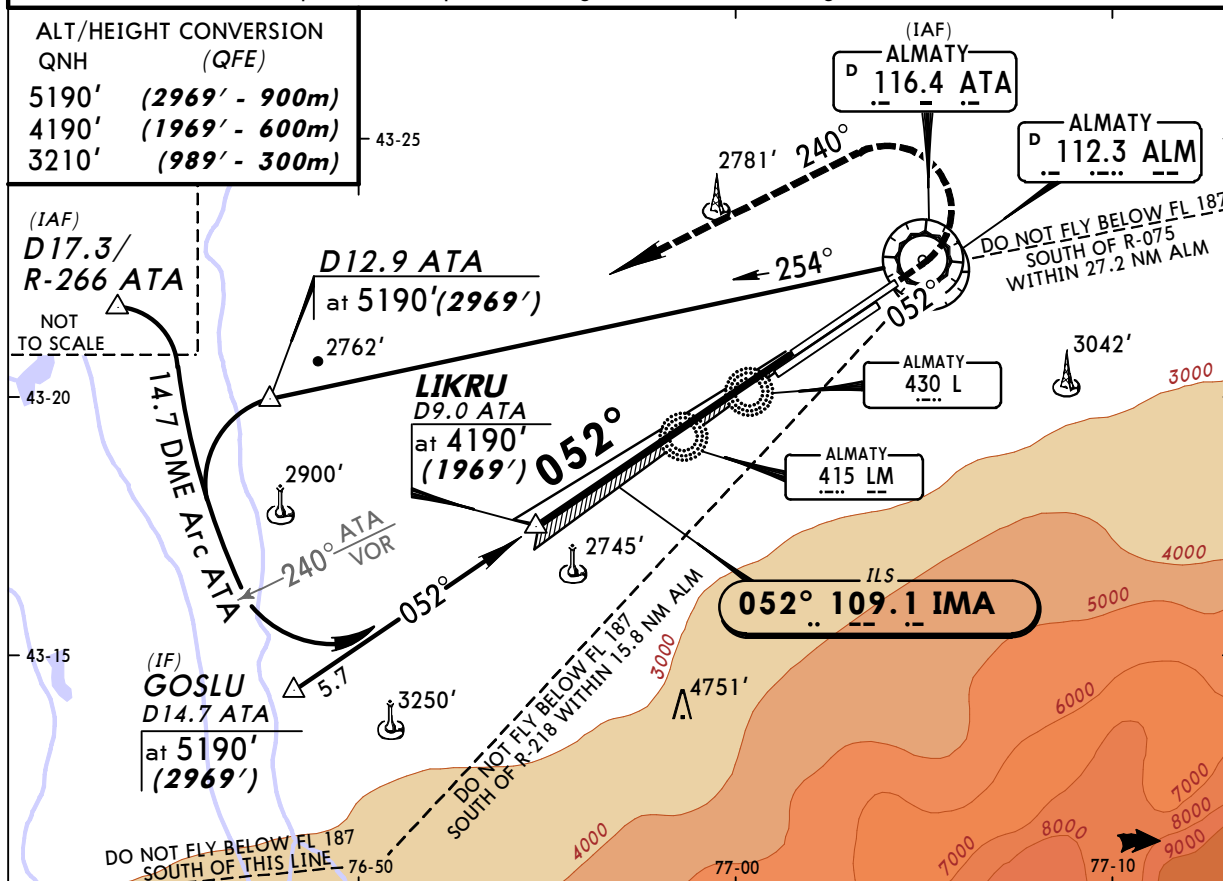
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **11-1** Eff 9 Apr

**ALMATY, KAZAKHSTAN**  
**ILS DME Z Rwy 05L**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                                                                                              | ALMATY Approach (R)       | ALMATY Radar (SRE)             | ALMATY Tower (PAR/TWR)       | Ground                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|------------------------------|-----------------------------|
| 129.8                                                                                                                                                                                                                                                                                             | 124.8                     | 120.8                          | 119.4                        | 121.7                       |
| LOC<br>IMA<br>109.1                                                                                                                                                                                                                                                                               | Final<br>Apch Crs<br>052° | GS<br>No Altitude<br>published | ILS<br>DA(H)<br>2421' (200') | Apt Elev 2234'<br>RWY 2221' |
| <b>MISSED APCH:</b> Climb on 052° to 3210' (989') or above, then turn LEFT (MAX 215 KT) onto 240° climbing to 5190' (2969') to intercept 14.7 DME Arc ATA, then according to chart.<br>Do not turn before ATA VOR.                                                                                |                           |                                |                              |                             |
| Alt Set: MM (hPa on req)      QNH on req (QFE)      Trans level: FL 69      Trans alt: 5190' (2969')<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations. |                           |                                |                              |                             |



| Gnd speed-Kts | 70    | 90  | 100 | 120 | 140 | 160 | HIALS | MIM                  |
|---------------|-------|-----|-----|-----|-----|-----|-------|----------------------|
| ILS GS        | 3.00° | 377 | 484 | 538 | 646 | 753 | 861   | 3210' (989') on 052° |

| STRAIGHT-IN LANDING RWY 05L |      |       | LOC (GS out)       |  |
|-----------------------------|------|-------|--------------------|--|
| ILS                         |      |       | DA(H) 2421' (200') |  |
| FULL                        |      |       | ALS out            |  |
| A                           |      |       |                    |  |
| B                           |      |       |                    |  |
| C                           | 800m | 1200m | NOT AUTHORIZED     |  |
| D                           |      |       |                    |  |

PANS OPS

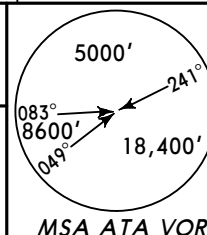
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ALMATY

**JEPPESEN**  
3 APR 09 (11-2) Eff

**ALMATY, KAZAKHSTAN**  
**dr ILS DME Y Rwy 05L**

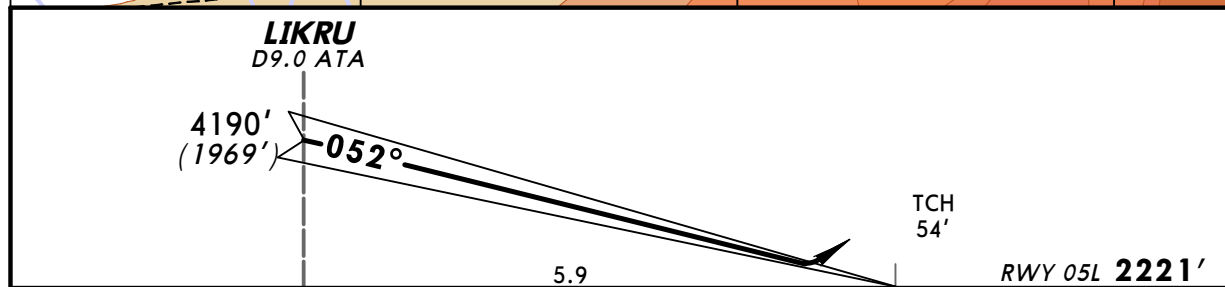
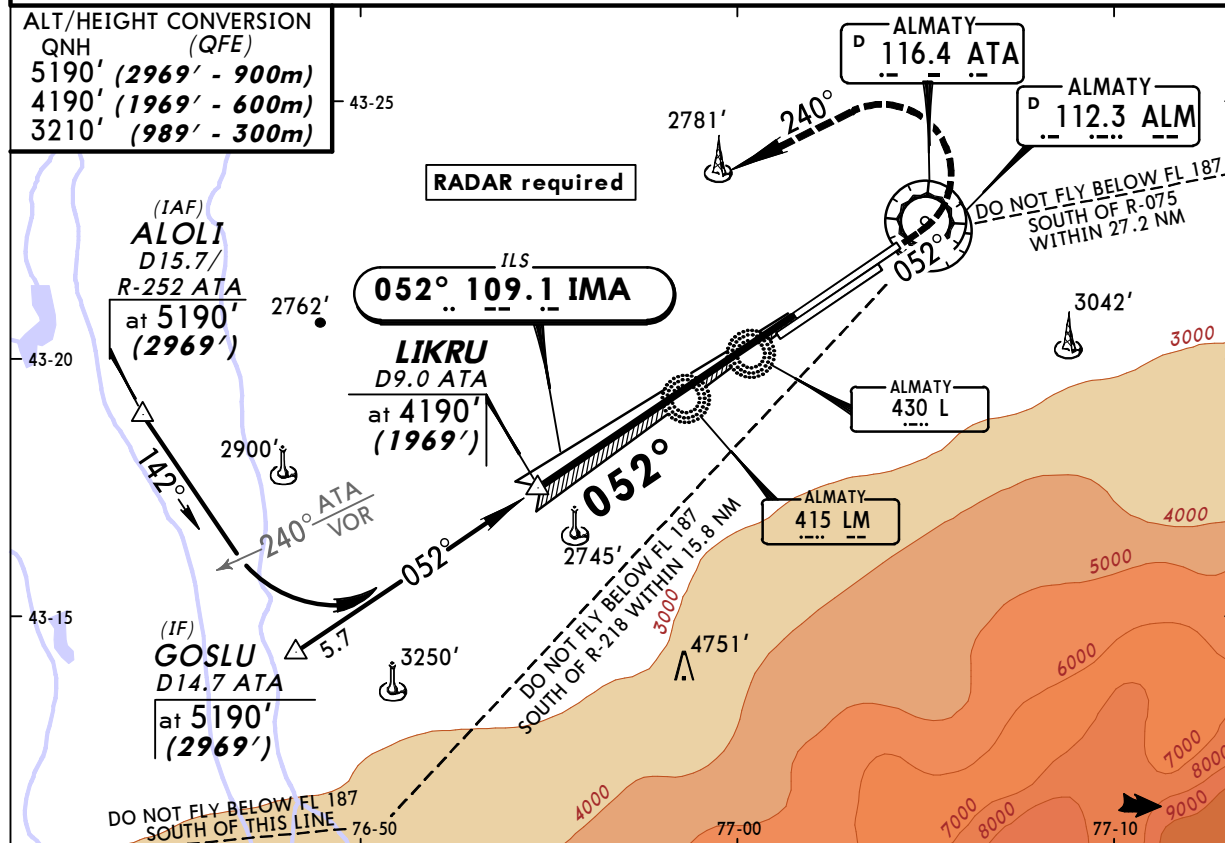
|                                   |  |                                                |  |                                       |  |                                            |  |                                                             |  |
|-----------------------------------|--|------------------------------------------------|--|---------------------------------------|--|--------------------------------------------|--|-------------------------------------------------------------|--|
| ATIS<br><b>129.8</b>              |  | ALMATY Approach (R)<br><b>124.8</b>            |  | ALMATY Radar (SRE)<br><b>120.8</b>    |  | ALMATY Tower (PAR/TWR)<br><b>119.4</b>     |  | Ground<br><b>121.7</b>                                      |  |
| <i>LOC</i><br>IMA<br><b>109.1</b> |  | <i>Final</i><br><i>Apch Crs</i><br><b>052°</b> |  | <i>GS</i><br>No Altitude<br>published |  | <i>ILS</i><br>DA(H)<br><b>2421' (200')</b> |  | <i>Apt Elev</i> <b>2234'</b><br><br><i>RWY</i> <b>2221'</b> |  |

**MISSED APCH:** Climb on 052° to 3210' (989') or above, then turn LEFT (MAX 215 KT) onto 240° climbing to 5190' (2969') and follow ATC instructions. Do not turn before ATA VOR.



Alt Set: MM (hPa on req)      QNH on req (**QFE**)      Trans level: FL 69      Trans alt: 5190' (**2969'**)  
Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers,  
which do not meet the requirement on protection against FM broadcasting stations.

| ALT/HEIGHT CONVERSION |                |
|-----------------------|----------------|
| QNH                   | (QFE)          |
| 5190'                 | (2969' - 900m) |
| 4190'                 | (1969' - 600m) |
| 3210'                 | (989' - 300m)  |

[illegible]

STRAIGHT-IN LANDING RWY 05L

| ILS<br><i>DA(H)</i> <b>2421' (200')</b> |      | LOC (GS out) |                   |
|-----------------------------------------|------|--------------|-------------------|
| FULL                                    |      | ALS out      |                   |
| A                                       | 800m | 1200m        | NOT<br>AUTHORIZED |
| B                                       |      |              |                   |
| C                                       |      |              |                   |
| D                                       |      |              |                   |

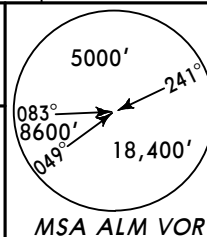
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **11-3** Eff 9 Apr

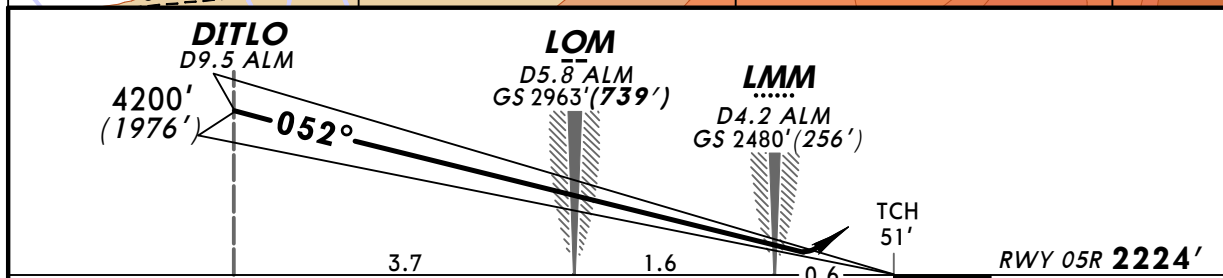
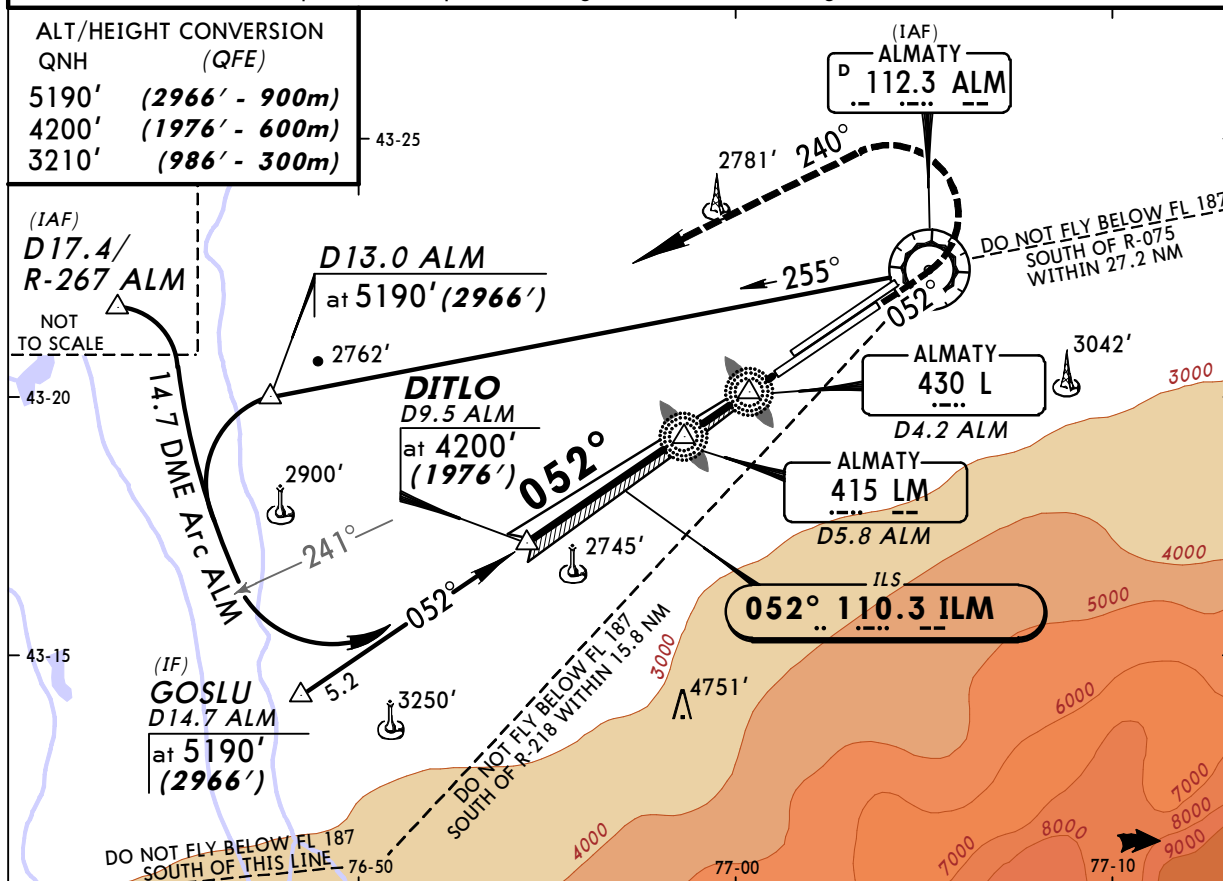
**ALMATY, KAZAKHSTAN**  
**ILS Z Rwy 05R**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                                                                                        | ALMATY Approach (R)              | ALMATY Radar (SRE)        | ALMATY Tower (PAR/TWR)       | Ground                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------|------------------------------|-----------------------------|
| 129.8                                                                                                                                                                                                                                                                                       | 124.8                            | 120.8                     | 119.4                        | 121.7                       |
| LOC<br>ILM<br><b>110.3</b>                                                                                                                                                                                                                                                                  | Final<br>Apch Crs<br><b>052°</b> | GS<br>LOM<br>2963' (739') | ILS<br>DA(H)<br>2424' (200') | Apt Elev 2234'<br>RWY 2224' |
| <b>MISSED APCH:</b> Climb on 052° to 3210' (986') or above, then turn LEFT (MAX 215 KT) onto 240° climbing to 5190' (2966') to intercept 14.7 DME Arc ALM, then according to chart.<br>Do not turn before passing VOR.                                                                      |                                  |                           |                              |                             |
| Alt Set: MM (hPa on req)    QNH on req (QFE)    Trans level: FL 69    Trans alt: 5190' (2966')<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations. |                                  |                           |                              |                             |



| ALT/HEIGHT CONVERSION | QNH            | (QFE) |
|-----------------------|----------------|-------|
| 5190'                 | (2966' - 900m) |       |
| 4200'                 | (1976' - 600m) |       |
| 3210'                 | (986' - 300m)  |       |



| Gnd speed-Kts | 70    | 90  | 100 | 120 | 140 | 160 | HIALS | MIM                  |
|---------------|-------|-----|-----|-----|-----|-----|-------|----------------------|
| ILS GS        | 3.00° | 377 | 484 | 538 | 646 | 753 | 861   | 3210' (986') on 052° |
|               |       |     |     |     |     |     |       |                      |

| STRAIGHT-IN LANDING RWY 05R |         |              |                |
|-----------------------------|---------|--------------|----------------|
| ILS                         |         | LOC (GS out) |                |
| DA(H) 2424' (200')          |         |              |                |
| FULL                        | ALS out |              |                |
| A                           |         |              |                |
| B                           |         |              |                |
| C                           | 1000m   | 1200m        | NOT AUTHORIZED |
| D                           |         |              |                |

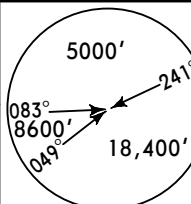
PANS OPS

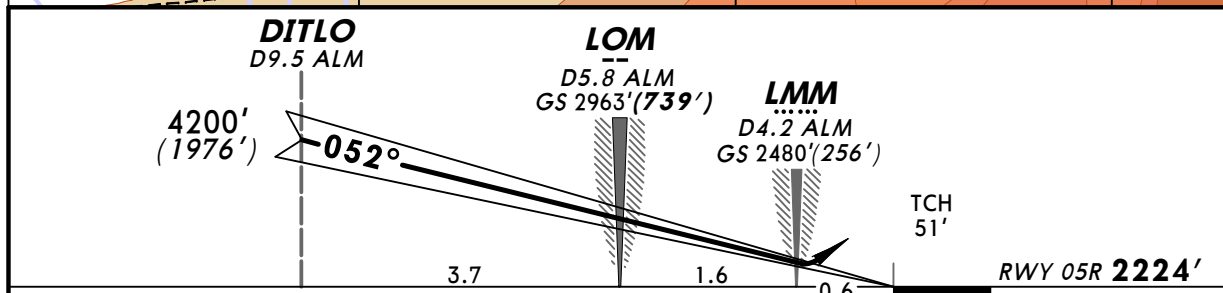
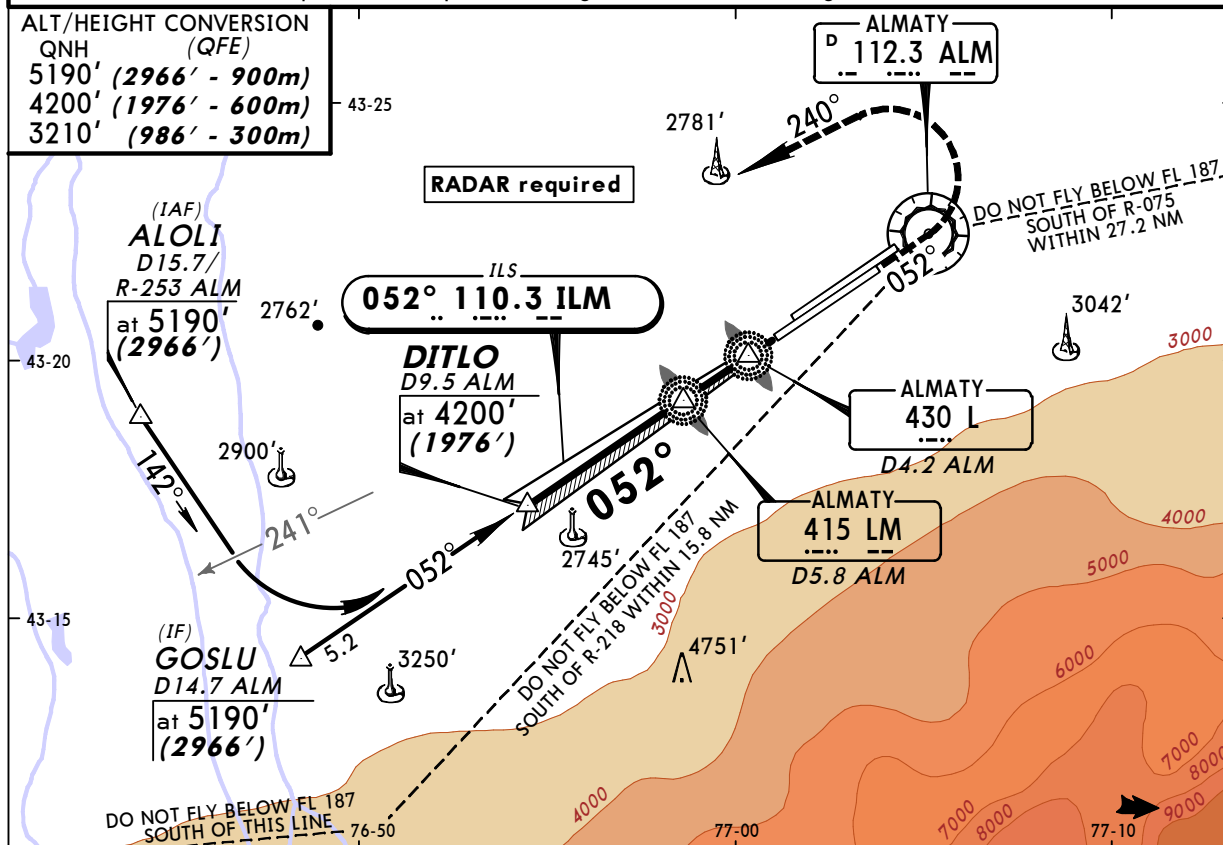
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **11-4** Eff 9 Apr

**ALMATY, KAZAKHSTAN**  
**ILS Y Rwy 05R**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                                                                                                          | ALMATY Approach (R)       | ALMATY Radar (SRE)        | ALMATY Tower (PAR/TWR)       | Ground                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------|
| 129.8                                                                                                                                                                                                                                                                                                         | 124.8                     | 120.8                     | 119.4                        | 121.7                                                                                                     |
| LOC<br>ILM<br>110.3                                                                                                                                                                                                                                                                                           | Final<br>Apch Crs<br>052° | GS<br>LOM<br>2963' (739') | ILS<br>DA(H)<br>2424' (200') | Apt Elev 2234'<br>RWY 2224'                                                                               |
| <b>MISSED APCH:</b> Climb on 052° to 3210' (986') or above, then turn LEFT (MAX 215 KT) onto 240° climbing to 5190' (2966') and follow ATC instructions. Do not turn before passing VOR.                                                                                                                      |                           |                           |                              | <br><b>MSA ALM VOR</b> |
| Alt Set: MM (hPa on req)    QNH on req ( <b>QFE</b> )    Trans level: FL 69    Trans alt: 5190' ( <b>2966'</b> )<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations. |                           |                           |                              |                                                                                                           |



| Gnd speed-Kts | 70  | 90  | 100 | 120 | 140 | 160 | HIALS<br>PAPI<br>MIM 3210' (986') on 052° |
|---------------|-----|-----|-----|-----|-----|-----|-------------------------------------------|
| ILS GS 3.00°  | 377 | 484 | 538 | 646 | 753 | 861 |                                           |
|               |     |     |     |     |     |     |                                           |

| STRAIGHT-IN LANDING RWY 05R |         |              | NOT AUTHORIZED |
|-----------------------------|---------|--------------|----------------|
| ILS                         |         | LOC (GS out) |                |
| DA(H) 2424' (200')          |         |              |                |
| FULL                        | ALS out |              |                |
| A                           |         |              |                |
| B                           |         |              |                |
| C                           | 1000m   | 1200m        |                |
| D                           |         |              |                |

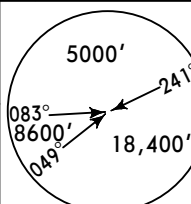
PANS OPS

**UAAA/ALA**  
**ALMATY**

**JEPPESSEN**  
11 MAR 11 **(11-5)**

**ALMATY, KAZAKHSTAN**  
**ILS Z Rwy 23L**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                     | ALMATY Approach (R)              | ALMATY Radar (SRE)        | ALMATY Tower (PAR/TWR)       | Ground                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------|------------------------------|----------------------------------------------------------------------------------------------------|
| 129.8                                                                                                                                                                                                                    | 124.8                            | 120.8                     | 119.4                        | 121.7                                                                                              |
| LOC<br>IAL<br><b>108.1</b>                                                                                                                                                                                               | Final<br>Apch Crs<br><b>232°</b> | GS<br>LOM<br>2874' (640') | ILS<br>DA(H)<br>2434' (200') | Apt Elev 2234'<br>RWY 2234'                                                                        |
| <b>MISSED APCH:</b> Climb on 232° to 3220' (986') or above, then turn RIGHT (MAX 215 KT) onto 040° climbing to 5190' (2956') and intercept 10.4 DME Arc ALM, then according to chart.<br>Do not turn before passing VOR. |                                  |                           |                              | <br>MSA ALM VOR |

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 69 Trans alt: 5190' (2956')  
Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

ALT/HEIGHT CONVERSION  
QNH (QFE)

|                      |
|----------------------|
| 5190' (2956' - 900m) |
| 4210' (1976' - 600m) |
| 3220' (986' - 300m)  |

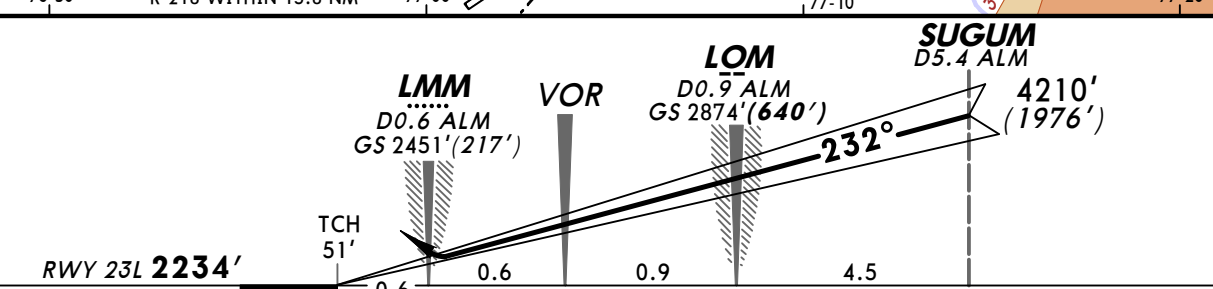
HOLDING FIX



43-30

43-25

76-50



| Gnd speed-Kts | 70  | 90  | 100 | 120 | 140 | 160 |
|---------------|-----|-----|-----|-----|-----|-----|
| ILS GS 2.67°  | 336 | 432 | 480 | 576 | 671 | 767 |
|               |     |     |     |     |     |     |
|               |     |     |     |     |     |     |

|          |                          |
|----------|--------------------------|
| HIALS-II | MIM 3220' (986') on 232° |
| PAPI     |                          |

| STRAIGHT-IN LANDING RWY 23L |                      |              | NOT AUTHORIZED |
|-----------------------------|----------------------|--------------|----------------|
| ILS                         |                      | LOC (GS out) |                |
| DA(H) 2434' (200')          |                      |              |                |
| FULL                        | ALS out              |              |                |
| A                           |                      |              |                |
| B                           |                      |              |                |
| C                           | RVR 720m<br>VIS 800m | 1200m        |                |
| D                           |                      |              |                |

PANS OPS

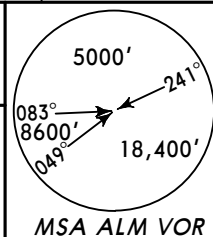
**UAAA/ALA**  
**ALMATY**

**JEPPESEN**  
11 MAR 11 **(11-6)**

**ALMATY, KAZAKHSTAN**  
**ILS Y Rwy 23L**

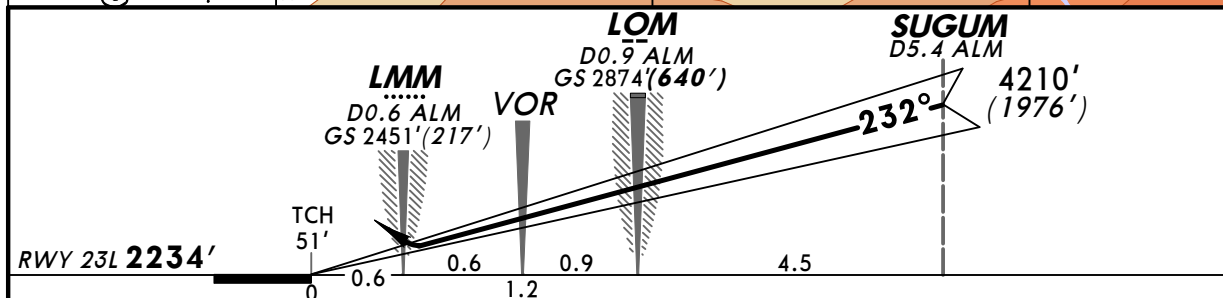
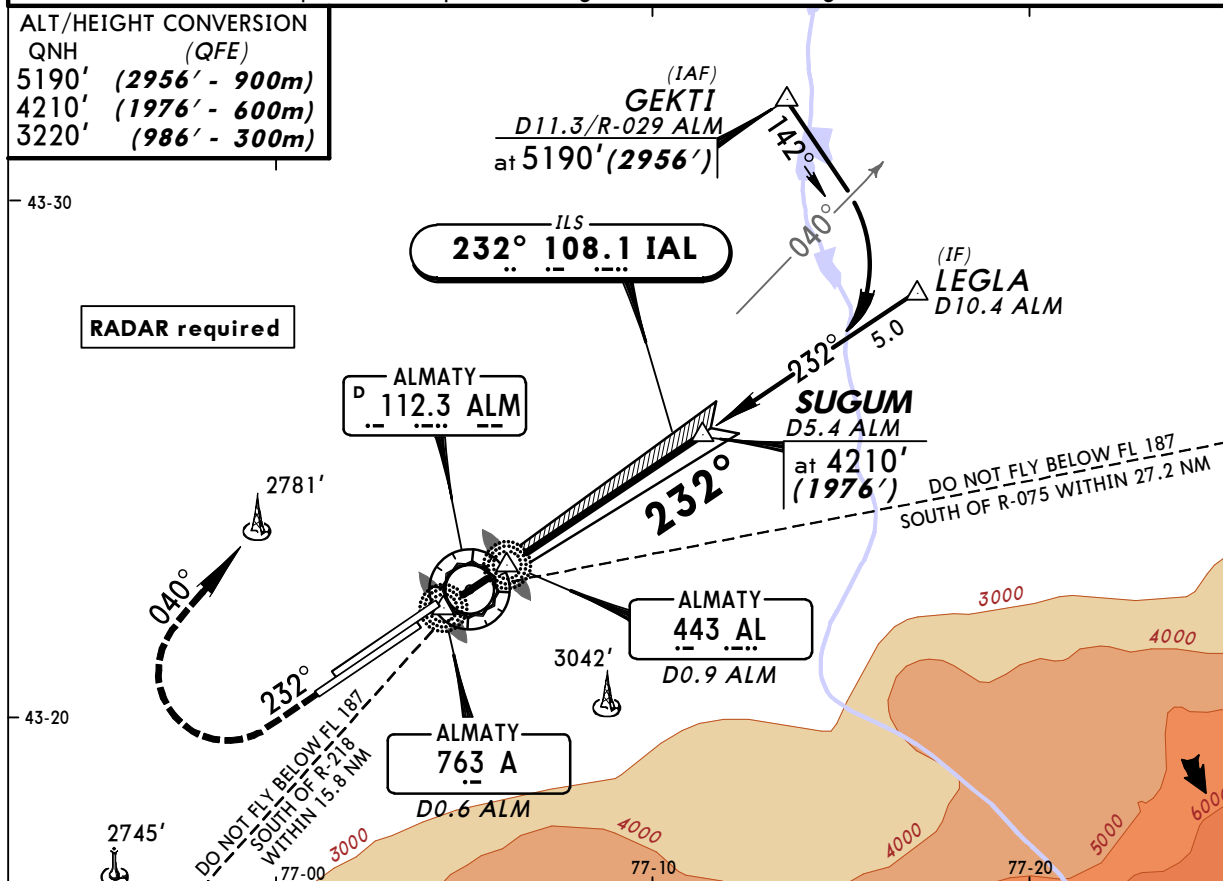
BRIEFING STRIP

| ATIS                                                                                                                                                                                                                                                                                                                   | ALMATY Approach (R)              | ALMATY Radar (SRE)        | ALMATY Tower (PAR/TWR)       | Ground                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------|------------------------------|-----------------------------|
| 129.8                                                                                                                                                                                                                                                                                                                  | 124.8                            | 120.8                     | 119.4                        | 121.7                       |
| LOC<br>IAL<br><b>108.1</b>                                                                                                                                                                                                                                                                                             | Final<br>Apch Crs<br><b>232°</b> | GS<br>LOM<br>2874' (640') | ILS<br>DA(H)<br>2434' (200') | Apt Elev 2234'<br>RWY 2234' |
| <b>MISSED APCH:</b> Climb on 232° to 3220' (986') or above, then turn<br><b>RIGHT</b> (MAX 215 KT) onto 040° climbing to 5190' (2956') and<br>follow ATC instructions. Do not turn before passing VOR.                                                                                                                 |                                  |                           |                              |                             |
| Alt Set: MM (hPa on req)      QNH on req ( <b>QFE</b> )      Trans level: FL 69      Trans alt: 5190' ( <b>2956'</b> )<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers,<br>which do not meet the requirement on protection against FM broadcasting stations. |                                  |                           |                              |                             |

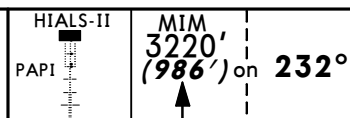


**ALT/HEIGHT CONVERSION**

| QNH   | (QFE)          |
|-------|----------------|
| 5190' | (2956' - 900m) |
| 4210' | (1976' - 600m) |
| 3220' | (986' - 300m)  |



|               |       |     |     |     |     |     |     |      |          |        |      |
|---------------|-------|-----|-----|-----|-----|-----|-----|------|----------|--------|------|
| Gnd speed-Kts | 70    | 90  | 100 | 120 | 140 | 160 |     |      | HIALS-II | MIM    |      |
| ILS GS        | 2.67° | 336 | 432 | 480 | 576 | 671 | 767 | PAPI |          | 3220'  | 232° |
|               |       |     |     |     |     |     |     |      |          | (986') |      |
|               |       |     |     |     |     |     |     |      |          | on     |      |
|               |       |     |     |     |     |     |     |      |          |        |      |



| STRAIGHT-IN LANDING RWY 23L |                      |                 |                   |
|-----------------------------|----------------------|-----------------|-------------------|
| ILS<br>DA(H) 2434' (200')   |                      | LOC<br>(GS out) |                   |
| FULL                        | ALS out              |                 |                   |
| A                           |                      |                 |                   |
| B                           |                      |                 |                   |
| C                           | RVR 720m<br>VIS 800m | 1200m           | NOT<br>AUTHORIZED |
| D                           |                      |                 |                   |

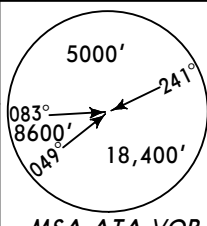
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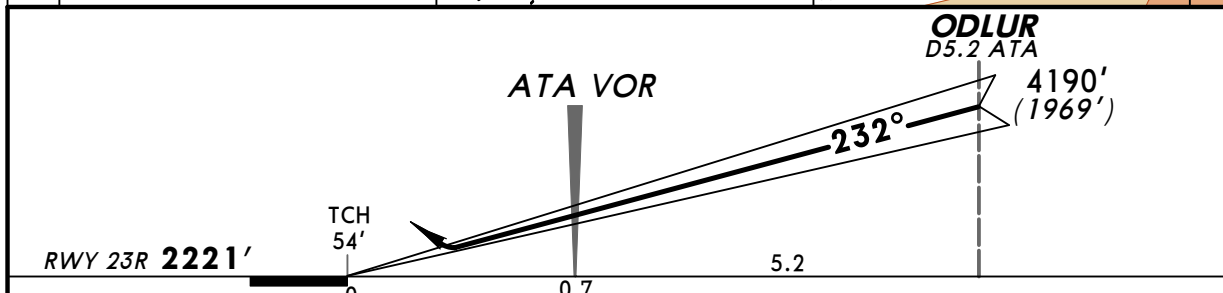
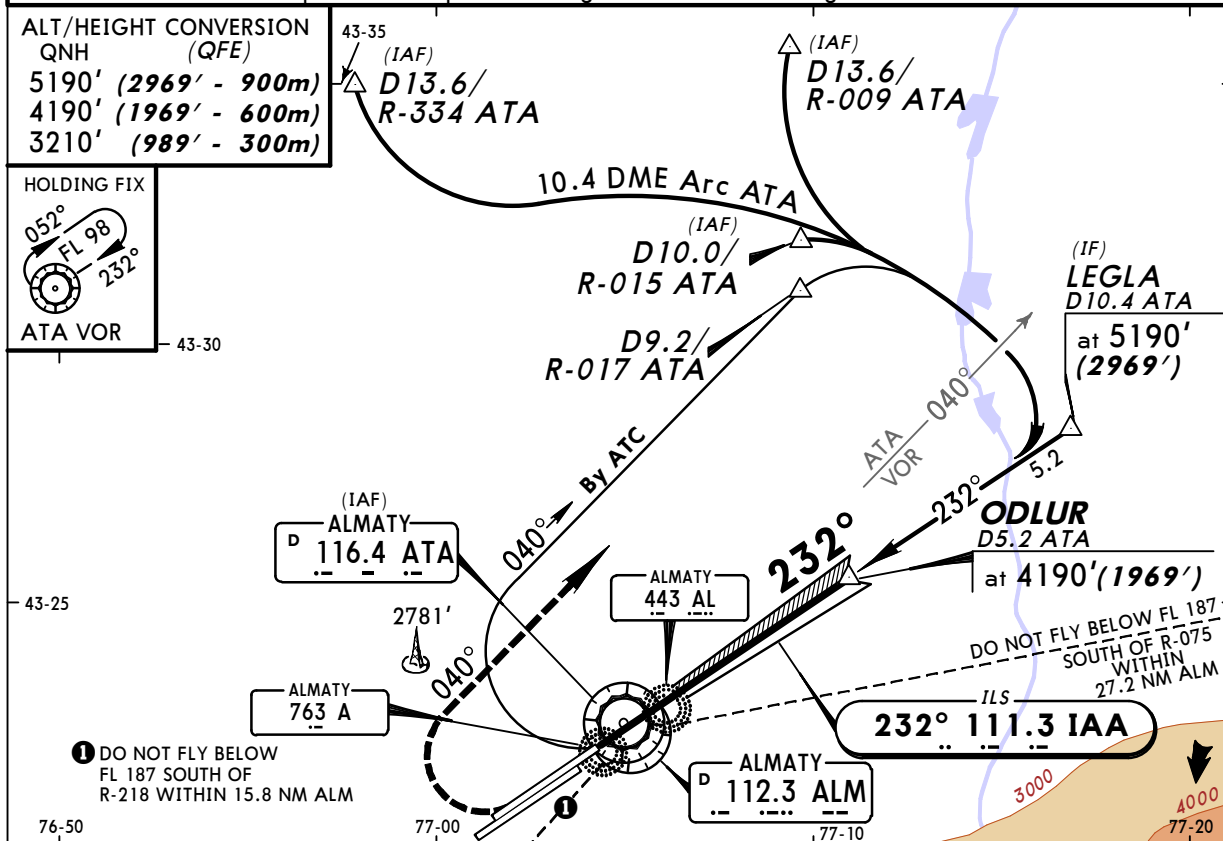
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **11-7** Eff 9 Apr

**ALMATY, KAZAKHSTAN**  
**ILS DME Z Rwy 23R**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                                                                                                 | ALMATY Approach (R)       | ALMATY Radar (SRE)             | ALMATY Tower (PAR/TWR)       | Ground                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|------------------------------|-------------------------------------------------------------------------------------|
| 129.8                                                                                                                                                                                                                                                                                                | 124.8                     | 120.8                          | 119.4                        | 121.7                                                                               |
| LOC<br>IAA<br>111.3                                                                                                                                                                                                                                                                                  | Final<br>Apch Crs<br>232° | GS<br>No Altitude<br>published | ILS<br>DA(H)<br>2421' (200') | Apt Elev 2234'<br>RWY 2221'                                                         |
| <b>MISSED APCH:</b> Climb on 232° to 3210' (989') or above, then turn<br><b>RIGHT (MAX 215 KT)</b> onto 040° climbing to 5190' (2969') and<br>intercept 10.4 DME Arc ATA, then according to chart.<br>Do not turn before ATA VOR.                                                                    |                           |                                |                              |  |
| Alt Set: MM (hPa on req)      QNH on req (QFE)      Trans level: FL 69      Trans alt: 5190' (2969')<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers,<br>which do not meet the requirement on protection against FM broadcasting stations. |                           |                                |                              |                                                                                     |



|                      |     |     |     |     |     |     |
|----------------------|-----|-----|-----|-----|-----|-----|
| <i>Gnd speed-Kts</i> | 70  | 90  | 100 | 120 | 140 | 160 |
| <i>ILS GS</i> 3.00°  | 377 | 484 | 538 | 646 | 753 | 861 |
|                      |     |     |     |     |     |     |
|                      |     |     |     |     |     |     |

HIALS-II

| STRAIGHT-IN LANDING RWY 23R |                      |                      |              |                   |  |
|-----------------------------|----------------------|----------------------|--------------|-------------------|--|
| ILS<br>DA(H) 2421'(200')    |                      |                      | LOC (GS out) |                   |  |
| FULL                        | TDZ or CL out        | ALS out              |              |                   |  |
| A                           | RVR 550m<br>VIS 800m | RVR 720m<br>VIS 800m | 1200m        | NOT<br>AUTHORIZED |  |
| B                           |                      |                      |              |                   |  |
| C                           |                      |                      |              |                   |  |
| D                           |                      |                      |              |                   |  |

PANS OPS

**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09  
Eff 9 Apr

**(11-7A)**

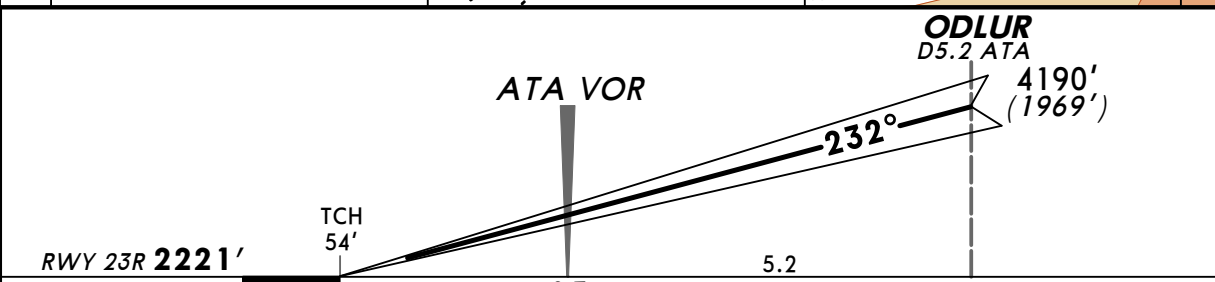
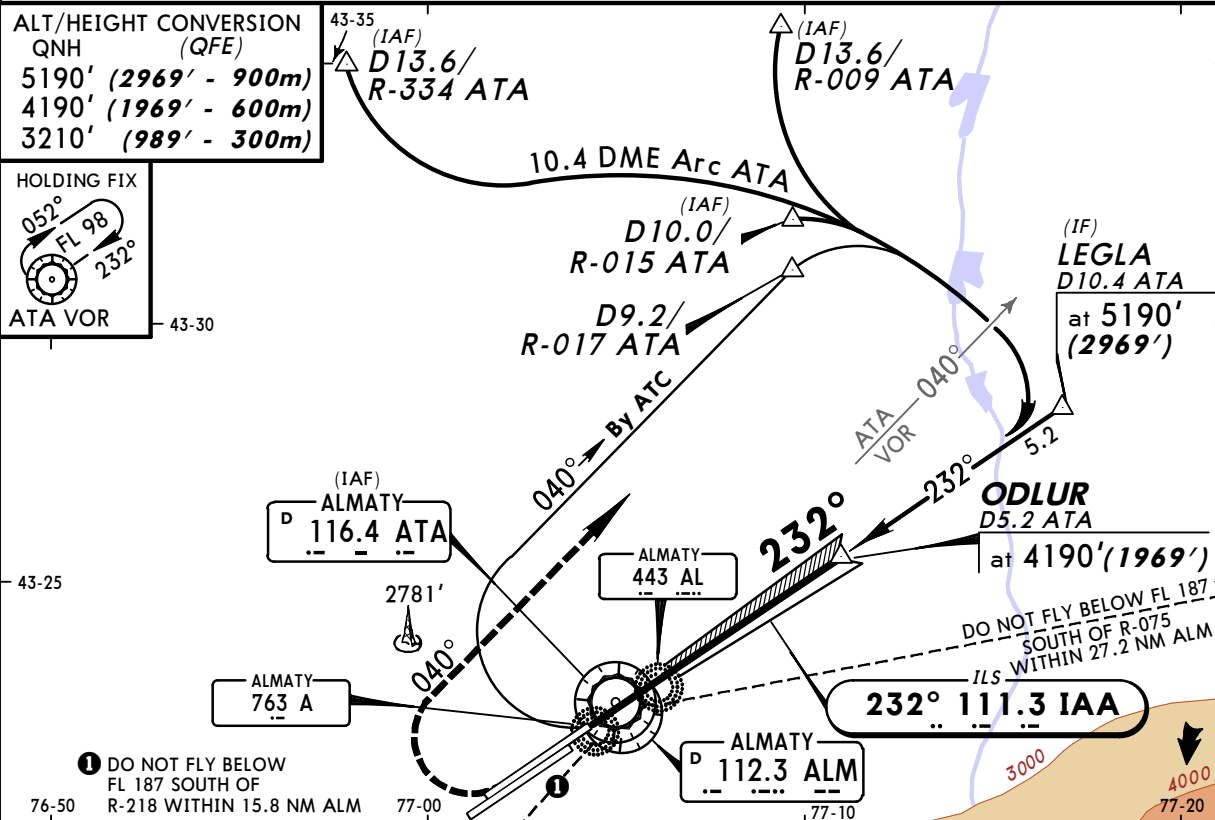
**ALMATY, KAZAKHSTAN**  
**CAT II ILS DME Z Rwy 23R**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                 | ALMATY Approach (R)       | ALMATY Radar (SRE)             | ALMATY Tower (PAR/TWR)                        | Ground                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|-----------------------------------------------|-----------------------------|
| 129.8                                                                                                                                                                                                                | 124.8                     | 120.8                          | 119.4                                         | 121.7                       |
| LOC<br>IAA<br>111.3                                                                                                                                                                                                  | Final<br>Apch Crs<br>232° | GS<br>No Altitude<br>published | CAT II ILS<br>RA 105'<br>DA(H)<br>2321'(100') | Apt Elev 2234'<br>RWY 2221' |
| <b>MISSED APCH:</b> Climb on 232° to 3210' (989') or above, then turn RIGHT (MAX 215 KT) onto 040° climbing to 5190' (2969') and intercept 10.4 DME Arc ATA, then according to chart.<br>Do not turn before ATA VOR. |                           |                                |                                               |                             |

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 69 Trans alt: 5190' (2969')  
 1. Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.  
 2. Special Aircrew & Acft Certification Required.

| ALT/HEIGHT CONVERSION |
|-----------------------|
| QNH (QFE)             |
| 5190' (2969' - 900m)  |
| 4190' (1969' - 600m)  |
| 3210' (989' - 300m)   |



|                                       |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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<div><div>HIALS-II</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div>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STRAIGHT-IN LANDING RWY 23R  
 CAT II ILS  
 ABCD  
**RA 105'**  
 DA(H) 2321'(100')

RVR 350m

PANS OPS

**UAAA/ALA**  
**ALMATY**

**JEPPESEN**  
3 APR 09 **11-8** Eff 9 Apr

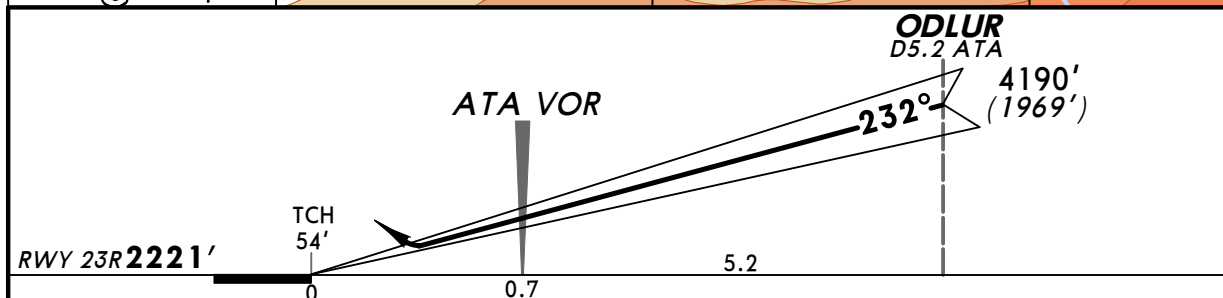
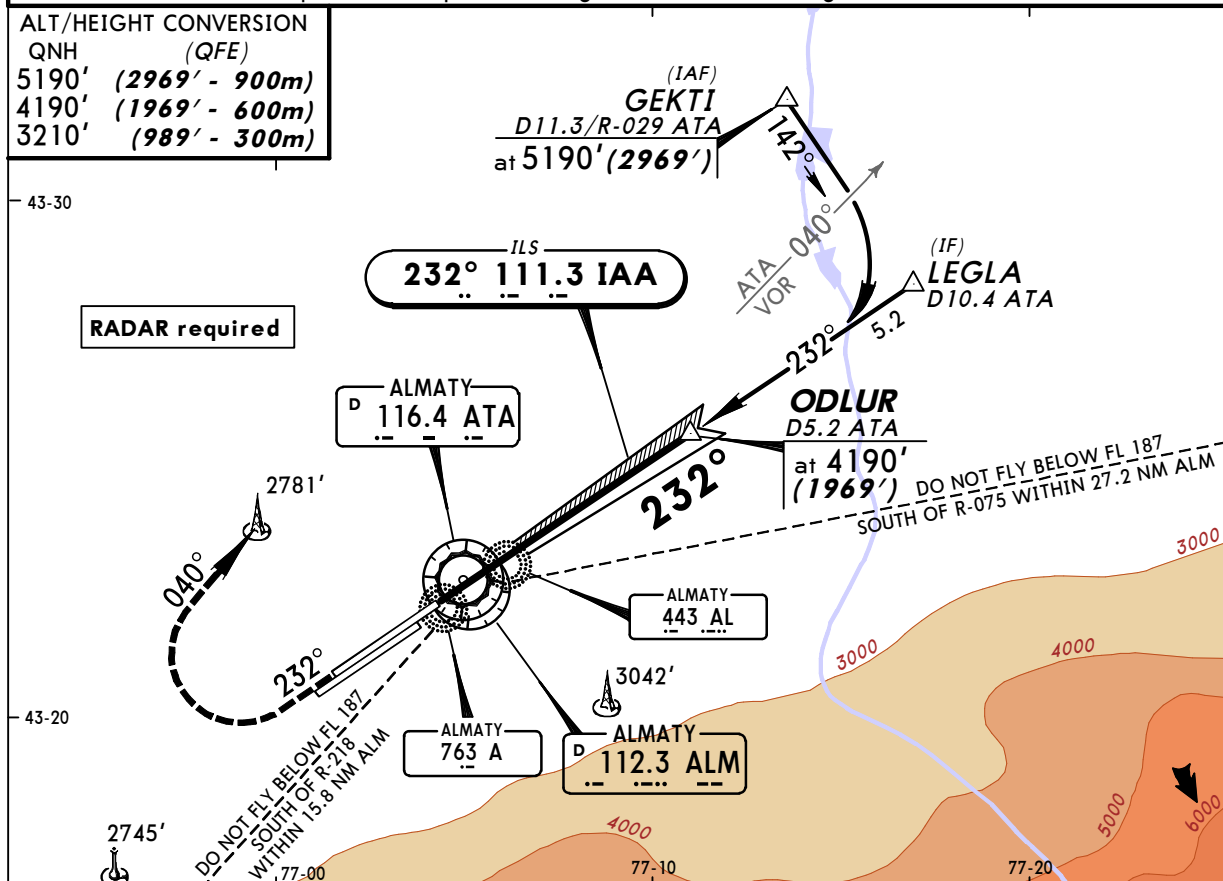
**ALMATY, KAZAKHSTAN**  
**ILS DME Y Rwy 23R**

BRIEFING STRIP

| ATIS                                                                                                                                                                                                                                                                                                                   | ALMATY Approach (R)       | ALMATY Radar (SRE)             | ALMATY Tower (PAR/TWR)       | Ground                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|------------------------------|-----------------------------|
| 129.8                                                                                                                                                                                                                                                                                                                  | 124.8                     | 120.8                          | 119.4                        | 121.7                       |
| LOC<br>IAA<br>111.3                                                                                                                                                                                                                                                                                                    | Final<br>Apch Crs<br>232° | GS<br>No Altitude<br>published | ILS<br>DA(H)<br>2421' (200') | Apt Elev 2234'<br>RWY 2221' |
| <b>MISSED APCH:</b> Climb on 232° to 3210' (989') or above, then turn<br><b>RIGHT</b> (MAX 215 KT) onto 040° climbing to 5190' (2969') and<br>follow ATC instructions. Do not turn before ATA VOR.                                                                                                                     |                           |                                |                              | <p>MSA ATA VOR</p>          |
| Alt Set: MM (hPa on req)      QNH on req ( <b>QFE</b> )      Trans level: FL 69      Trans alt: 5190' ( <b>2969'</b> )<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers,<br>which do not meet the requirement on protection against FM broadcasting stations. |                           |                                |                              |                             |

**ALT/HEIGHT CONVERSION**

| QNH   | (QFE)          |
|-------|----------------|
| 5190' | (2969' - 900m) |
| 4190' | (1969' - 600m) |
| 3210' | (989' - 300m)  |



| Gnd speed-Kts | 70    | 90  | 100 | 120 | 140 | 160 | HIALS-II | MIM                  |
|---------------|-------|-----|-----|-----|-----|-----|----------|----------------------|
| ILS GS        | 3.00° | 377 | 484 | 538 | 646 | 753 | 861      | 3210' (989') on 232° |

| STRAIGHT-IN LANDING RWY 23R |                      |                      |                 |                   |  |
|-----------------------------|----------------------|----------------------|-----------------|-------------------|--|
| ILS<br>DA(H) 2421'(200')    |                      |                      | LOC<br>(GS out) |                   |  |
| FULL                        |                      | TDZ or CL out        | ALS out         |                   |  |
| A                           |                      |                      |                 |                   |  |
| B                           | RVR 550m<br>VIS 800m | RVR 720m<br>VIS 800m | 1200m           | NOT<br>AUTHORIZED |  |
| C                           |                      |                      |                 |                   |  |
| D                           |                      |                      |                 |                   |  |

PANS OPS

**UAAA/ALA**  
**ALMATY**

**JEPPESEN**  
3 APR 09  
Eff 9 Apr

(11-8A)

**ALMATY, KAZAKHSTAN**  
**CAT II ILS DME Y Rwy 23R**

BRIEFING STRIP

| ATIS                                                                                                                                                                                             | ALMATY Approach (R)       | ALMATY Radar (SRE)             | ALMATY Tower (PAR/TWR)                        | Ground                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|-----------------------------------------------|-----------------------------|
| 129.8                                                                                                                                                                                            | 124.8                     | 120.8                          | 119.4                                         | 121.7                       |
| LOC<br>IAA<br>111.3                                                                                                                                                                              | Final<br>Apch Crs<br>232° | GS<br>No Altitude<br>published | CAT II ILS<br>RA 105'<br>DA(H)<br>2321'(100') | Apt Elev 2234'<br>RWY 2221' |
| <b>MISSED APCH:</b> Climb on 232° to 3210'(989') or above, then turn<br><b>RIGHT (MAX 215 KT)</b> onto 040° climbing to 5190'(2969') and<br>follow ATC instructions. Do not turn before ATA VOR. |                           |                                |                                               |                             |

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 69 Trans alt: 5190'(2969')  
 Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers,  
 which do not meet the requirement on protection against FM broadcasting stations.

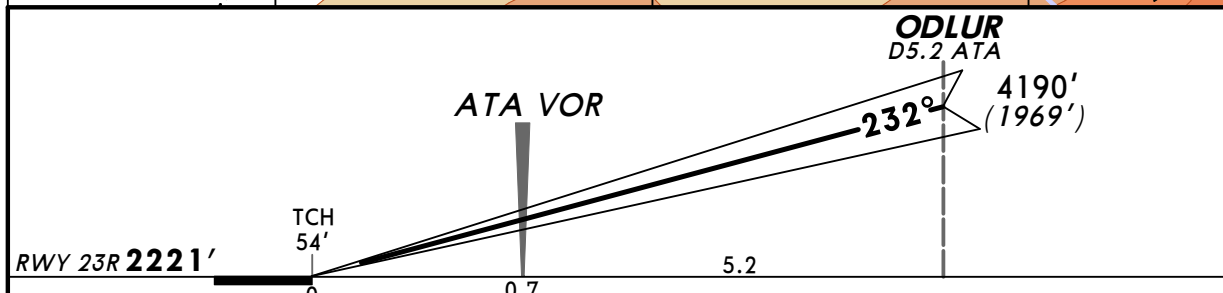
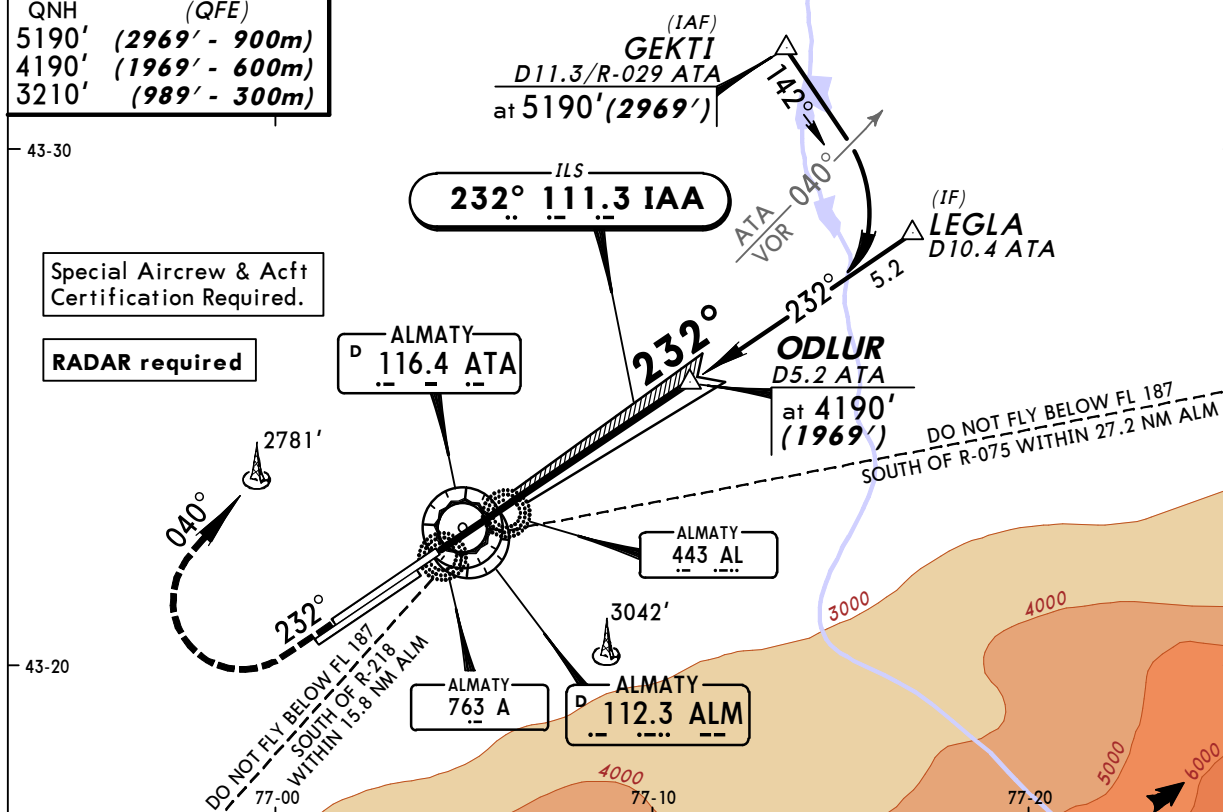
| ALT/HEIGHT CONVERSION |
|-----------------------|
| QNH (QFE)             |
| 5190' (2969' - 900m)  |
| 4190' (1969' - 600m)  |
| 3210' (989' - 300m)   |

43-30

Special Aircrew & Acft  
Certification Required.

**RADAR required**

43-20



|               |     |     |     |     |     |     |
|---------------|-----|-----|-----|-----|-----|-----|
| Gnd speed-Kts | 70  | 90  | 100 | 120 | 140 | 160 |
| GS 3.00°      | 377 | 484 | 538 | 646 | 753 | 861 |
|               |     |     |     |     |     |     |
|               |     |     |     |     |     |     |

HIALS-II

PAPI

MIM

3210'

(989') on

232°

**STRAIGHT-IN LANDING RWY 23R**  
**CAT II ILS**  
 ABCD  
**RA 105'**  
 DA(H) 2321'(100')

PANS OPS

RVR 350m

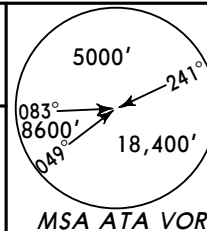
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **(13-1)** **Eff 9 Apr**

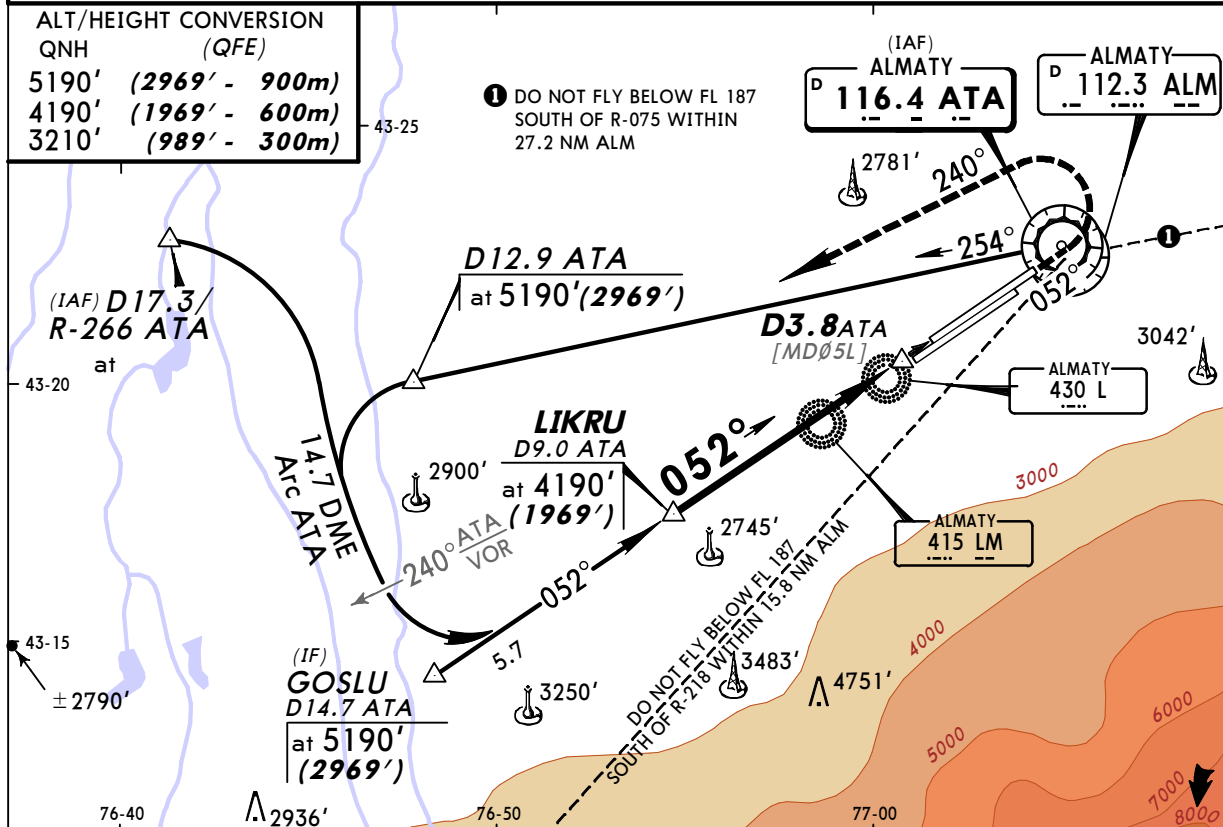
**ALMATY, KAZAKHSTAN**  
**VOR DME Rwy 05L**

BRIEFING STRIP

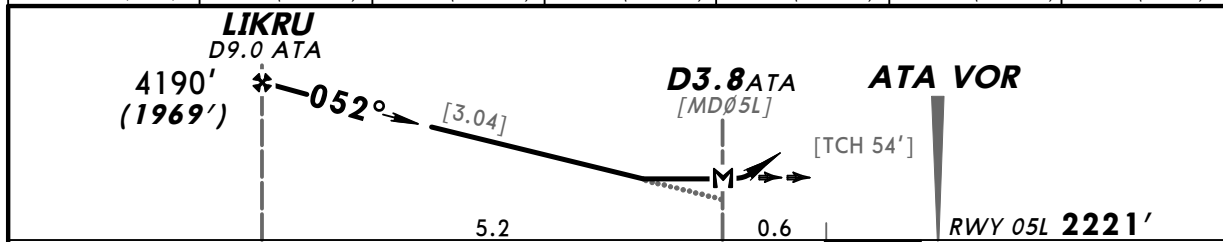
|                                                                                                                                                                                                                                                                                                                  |                                     |                                              |                                        |                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------|-------------------------------------------|
| ATIS<br><b>129.8</b>                                                                                                                                                                                                                                                                                             | ALMATY Approach (R)<br><b>124.8</b> | ALMATY Radar (SRE)<br><b>120.8</b>           | ALMATY Tower (PAR/TWR)<br><b>119.4</b> | Ground<br><b>121.7</b>                    |
| VOR<br>ATA<br><b>116.4</b>                                                                                                                                                                                                                                                                                       | Final<br>Apch Crs<br><b>052°</b>    | Minimum Alt<br><b>LIKRU</b><br>4190' (1969') | MDA(H)<br>Refer to<br>Minimums         | Apt Elev <b>2234'</b><br>RWY <b>2221'</b> |
| <b>MISSED APCH:</b> Climb on 052° to 3210' (989') or above, then turn<br><b>LEFT (MAX 215 KT)</b> onto 240° climbing to 5190' (2969') and<br><b>intercept 14.7 DME Arc ATA</b> , then according to chart.<br>Do not turn before ATA VOR.                                                                         |                                     |                                              |                                        |                                           |
| Alt Set: MM (hPa on req)    QNH on req ( <b>QFE</b> )    Trans level: FL 69    Trans alt: 5190' ( <b>2969'</b> )<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR<br>receivers, which do not meet the requirement on protection against FM broadcasting stations. |                                     |                                              |                                        |                                           |



| ALT/HEIGHT CONVERSION |       |
|-----------------------|-------|
| QNH                   | (QFE) |
| 5190' (2969' - 900m)  |       |
| 4190' (1969' - 600m)  |       |
| 3210' (989' - 300m)   |       |



|                |               |               |               |               |               |              |
|----------------|---------------|---------------|---------------|---------------|---------------|--------------|
| ATA DME        | 8.5           | 8.0           | 7.5           | 6.9           | 6.4           | 5.8          |
| ALTITUDE (HAT) | 3990' (1769') | 3820' (1599') | 3650' (1429') | 3480' (1259') | 3310' (1089') | 3130' (909') |



|                                                    |     |     |     |     |     |     |
|----------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Gnd speed-Kts                                      | 70  | 90  | 100 | 120 | 140 | 160 |
| Descent Gradient 5.31% or<br>Descent angle [3.04°] | 376 | 484 | 538 | 645 | 753 | 861 |
| MAP at D3.8 ATA                                    |     |     |     |     |     |     |

|                             |                  |  |
|-----------------------------|------------------|--|
| STRAIGHT-IN LANDING RWY 05L |                  |  |
| AB: 3080' (859')            |                  |  |
| MDA(H)                      | CD: 3210' (989') |  |
|                             | ALS out          |  |

PANS OPS

|   |       |
|---|-------|
| A | 3000m |
| B |       |
| C | 5000m |
| D |       |

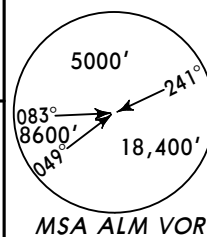
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **(13-2)** **Eff 9 Apr**

**ALMATY, KAZAKHSTAN**  
**VOR DME Rwy 05R**

BRIEFING STRIP

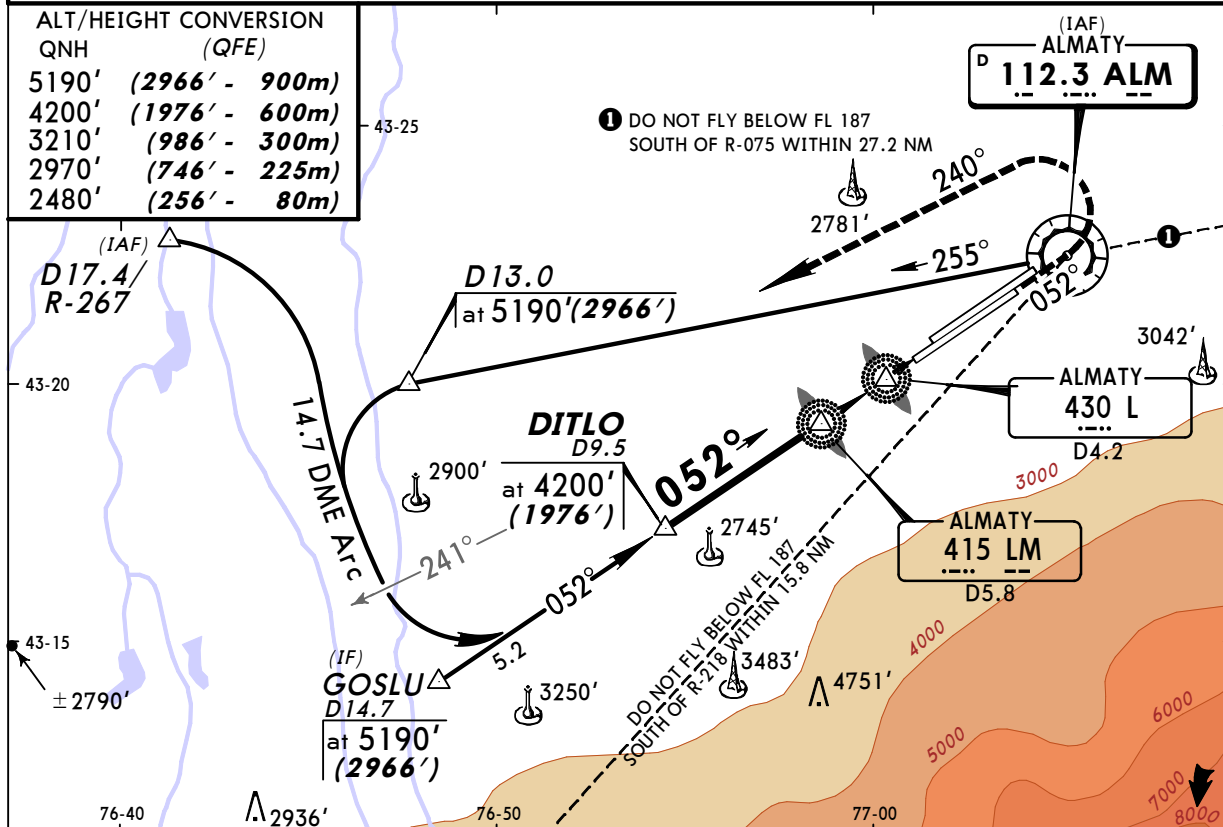
|                                                                                                                                                                                                                                          |                                     |                                                     |                                        |                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------------------|
| ATIS<br><b>129.8</b>                                                                                                                                                                                                                     | ALMATY Approach (R)<br><b>124.8</b> | ALMATY Radar (SRE)<br><b>120.8</b>                  | ALMATY Tower (PAR/TWR)<br><b>119.4</b> | Ground<br><b>121.7</b>                    |
| VOR<br>ALM<br><b>112.3</b>                                                                                                                                                                                                               | Final<br>Apch Crs<br><b>052°</b>    | Minimum Alt<br><b>DITLO</b><br><b>4200' (1976')</b> | MDA(H)<br>Refer to<br>Minimums         | Apt Elev <b>2234'</b><br><b>RWY 2224'</b> |
| <b>MISSED APCH:</b> Climb on 052° to 3210' (986') or above, then turn<br><b>LEFT (MAX 215 KT)</b> onto 240° climbing to 5190' (2966') and<br><b>intercept 14.7 DME Arc</b> , then according to chart.<br>Do not turn before passing VOR. |                                     |                                                     |                                        |                                           |



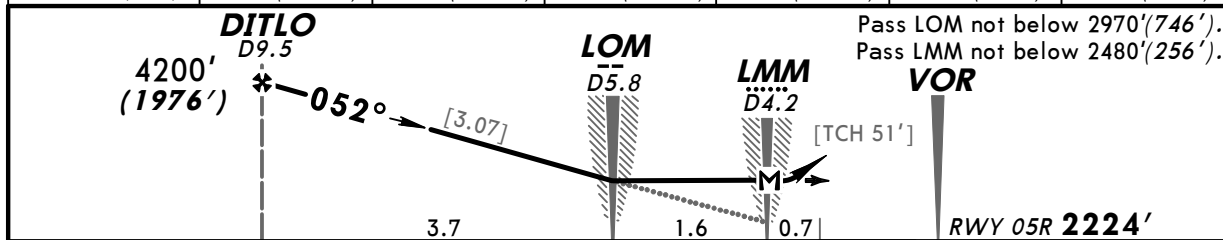
Alt Set: MM (hPa on req) QNH on req (**QFE**) Trans level: FL 69 Trans alt: 5190' (**2966'**)  
 Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.

ALT/HEIGHT CONVERSION  
QNH (QFE)

|       |                |
|-------|----------------|
| 5190' | (2966' - 900m) |
| 4200' | (1976' - 600m) |
| 3210' | (986' - 300m)  |
| 2970' | (746' - 225m)  |
| 2480' | (256' - 80m)   |



|                |               |               |               |               |              |              |
|----------------|---------------|---------------|---------------|---------------|--------------|--------------|
| ALM DME        | 8.6           | 8.1           | 7.6           | 7.0           | 6.5          | 5.9          |
| ALTITUDE (HAT) | 3900' (1676') | 3720' (1496') | 3550' (1326') | 3380' (1156') | 3210' (986') | 3040' (816') |



|                                                    |     |     |     |     |     |     |
|----------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Gnd speed-Kts                                      | 70  | 90  | 100 | 120 | 140 | 160 |
| Descent Gradient 5.36% or<br>Descent angle [3.07°] | 380 | 489 | 543 | 652 | 760 | 869 |
| MAP at LMM/D4.2                                    |     |     |     |     |     |     |

|       |                          |
|-------|--------------------------|
| HIALS | MIM 3210' (986') on 052° |
| PAPI  |                          |

PANS OPS

|                             |       |  |  |
|-----------------------------|-------|--|--|
| STRAIGHT-IN LANDING RWY 05R |       |  |  |
| AB: 3080' (856')            |       |  |  |
| MDA(H) CD: 3210' (986')     |       |  |  |
| ALS out                     |       |  |  |
| A                           | 3000m |  |  |
| B                           |       |  |  |
| C                           | 5000m |  |  |
| D                           |       |  |  |

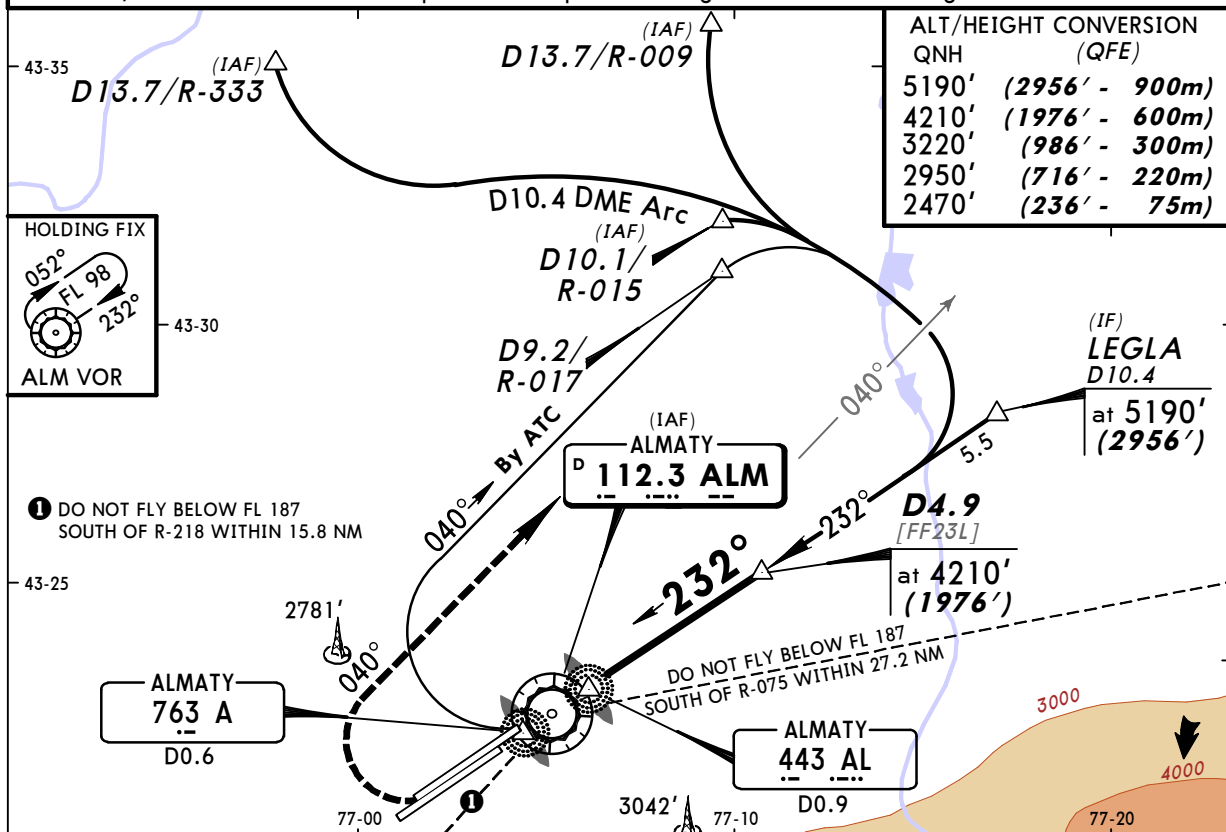
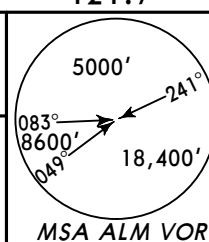
**UAAA/ALA**  
**ALMATY**

**JEPPESEN**  
3 APR 09 **(13-3)** Eff 9 Apr

**ALMATY, KAZAKHSTAN**  
**VOR DME Rwy 23L**

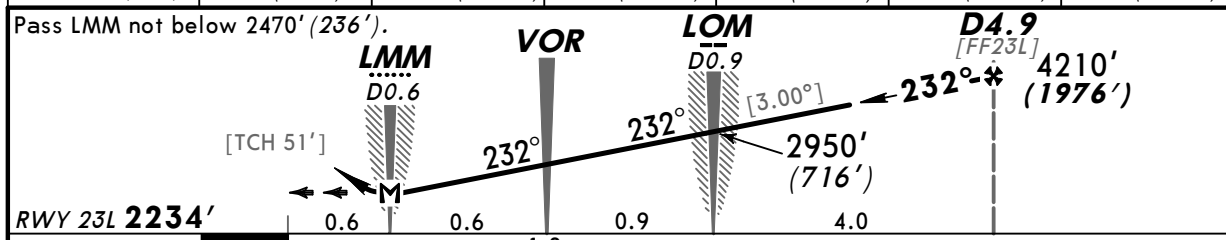
BRIEFING STRIP

|                                                                                                                                                                                                                                                                                                |                                     |                                             |                                                    |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------|----------------------------------------------------|------------------------|
| ATIS<br><b>129.8</b>                                                                                                                                                                                                                                                                           | ALMATY Approach (R)<br><b>124.8</b> | ALMATY Radar (SRE)<br><b>120.8</b>          | ALMATY Tower (PAR/TWR)<br><b>119.4</b>             | Ground<br><b>121.7</b> |
| VOR<br>ALM<br><b>112.3</b>                                                                                                                                                                                                                                                                     | Final<br>Apch Crs<br><b>232°</b>    | Minimum Alt<br><b>D4.9</b><br>4210' (1976') | MDA(H)<br>Refer to<br>Minimums<br><b>RWY 2234'</b> | Apt Elev <b>2234'</b>  |
| <b>MISSED APCH:</b> Climb on 232° to 3220' (986') or above, then turn<br><b>RIGHT</b> (MAX 215 KT) onto 040° climbing to 5190' (2956') and<br>intercept 10.4 DME Arc, then according to chart.<br>Do not turn before passing VOR.                                                              |                                     |                                             |                                                    |                        |
| Alt Set: MM (hPa on req)    QNH on req (QFE)    Trans level: FL 69    Trans alt: 5190' (2956')<br>Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR<br>receivers, which do not meet the requirement on protection against FM broadcasting stations. |                                     |                                             |                                                    |                        |



| ALT/HEIGHT CONVERSION | QNH            | (QFE) |
|-----------------------|----------------|-------|
| 5190'                 | (2956' - 900m) |       |
| 4210'                 | (1976' - 600m) |       |
| 3220'                 | (986' - 300m)  |       |
| 2950'                 | (716' - 220m)  |       |
| 2470'                 | (236' - 75m)   |       |

|                |              |               |               |               |               |               |
|----------------|--------------|---------------|---------------|---------------|---------------|---------------|
| ALM DME        | 1.6          | 2.2           | 2.7           | 3.2           | 3.8           | 4.3           |
| ALTITUDE (HAT) | 3180' (946') | 3350' (1116') | 3520' (1286') | 3700' (1466') | 3870' (1636') | 4040' (1806') |



|                                                    |     |     |     |     |     |     |
|----------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Gnd speed-Kts                                      | 70  | 90  | 100 | 120 | 140 | 160 |
| Descent Gradient 5.24% or<br>Descent angle [3.00°] | 372 | 478 | 531 | 637 | 743 | 849 |
| MAP at LMM/D0.6                                    |     |     |     |     |     |     |

|                             |       |         |  |
|-----------------------------|-------|---------|--|
| STRAIGHT-IN LANDING RWY 23L |       | ALS out |  |
| AB: 2890' (656')            |       |         |  |
| CD: 3220' (986')            |       |         |  |
| A                           | 2500m |         |  |
| B                           |       |         |  |
| C                           | 5000m |         |  |
| D                           |       |         |  |

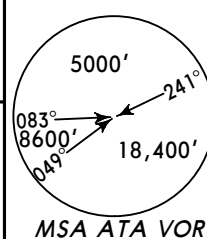
**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **(13-4)** **Eff 9 Apr**

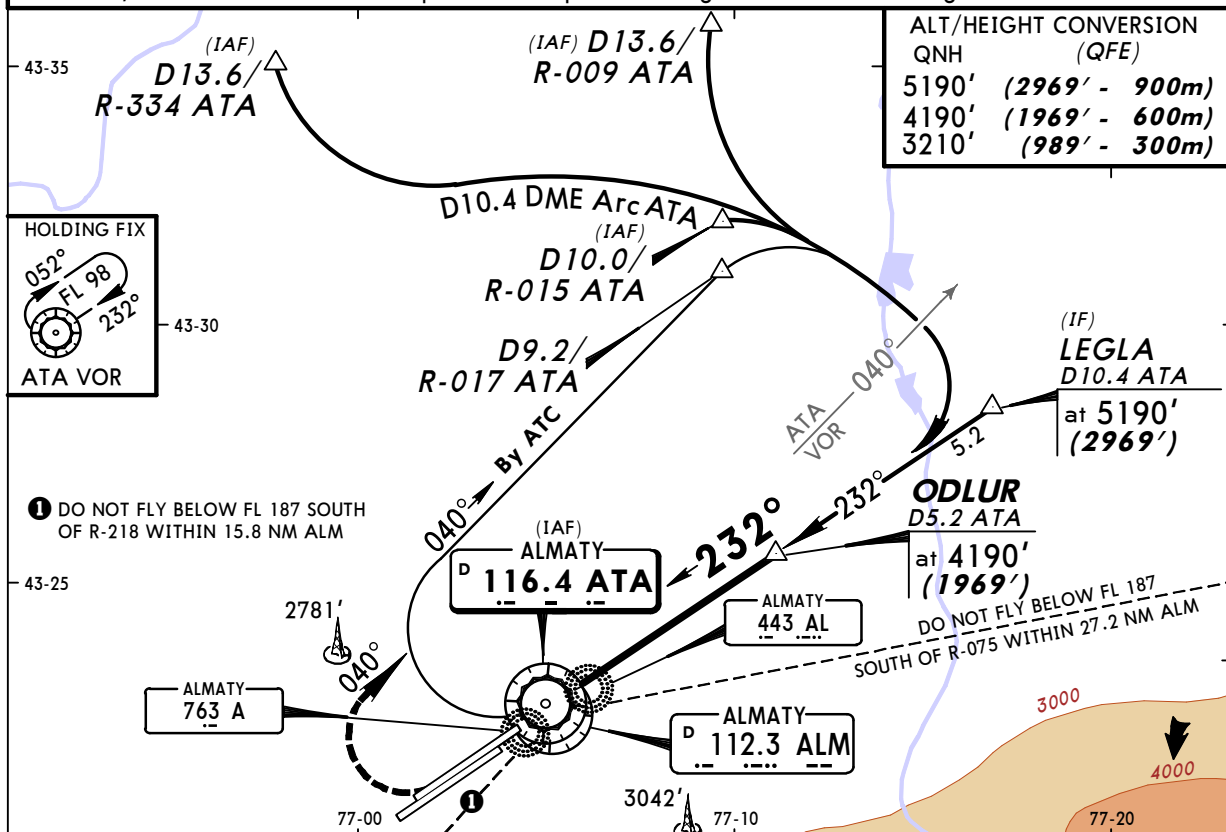
**ALMATY, KAZAKHSTAN**  
**VOR DME Rwy 23R**

BRIEFING STRIP

|                                                                                                                                                                                                                                                                     |                                     |                                                     |                                        |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------------------|
| ATIS<br><b>129.8</b>                                                                                                                                                                                                                                                | ALMATY Approach (R)<br><b>124.8</b> | ALMATY Radar (SRE)<br><b>120.8</b>                  | ALMATY Tower (PAR/TWR)<br><b>119.4</b> | Ground<br><b>121.7</b>                    |
| VOR<br>ATA<br><b>116.4</b>                                                                                                                                                                                                                                          | Final<br>Apch Crs<br><b>232°</b>    | Minimum Alt<br><b>ODLUR</b><br><b>4190' (1969')</b> | MDA(H)<br>Refer to<br>Minimums         | Apt Elev <b>2234'</b><br><b>RWY 2221'</b> |
| <b>MISSED APCH:</b> Climb on <b>232°</b> to <b>3210' (989')</b> or above, then turn <b>RIGHT (MAX 215 KT)</b> onto <b>040°</b> climbing to <b>5190' (2969')</b> and intercept <b>10.4 DME Arc ATA</b> , then according to chart.<br>Do not turn before passing VOR. |                                     |                                                     |                                        |                                           |

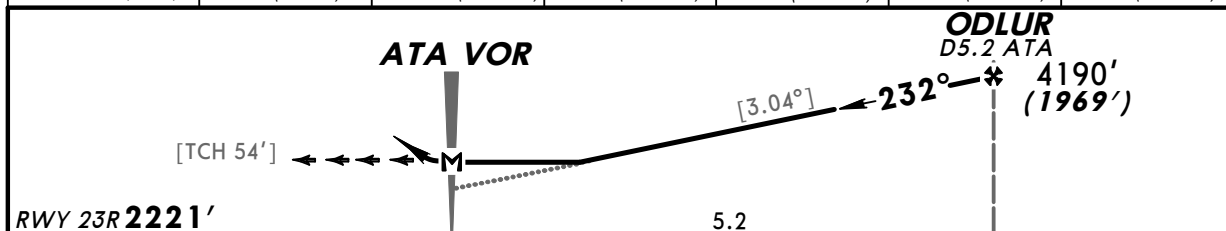


Alt Set: MM (hPa on req) QNH on req (**QFE**) Trans level: FL 69 Trans alt: **5190' (2969')**  
Radio interference may arise during ILS and VOR approaches of acft equipped with ILS and VOR receivers, which do not meet the requirement on protection against FM broadcasting stations.



| ALT/HEIGHT CONVERSION | QNH            | (QFE) |
|-----------------------|----------------|-------|
| 5190'                 | (2969' - 900m) |       |
| 4190'                 | (1969' - 600m) |       |
| 3210'                 | (989' - 300m)  |       |

|                |              |               |               |               |               |               |
|----------------|--------------|---------------|---------------|---------------|---------------|---------------|
| ATA DME        | 2.2          | 2.7           | 3.2           | 3.8           | 4.3           | 4.9           |
| ALTITUDE (HAT) | 3190' (969') | 3360' (1139') | 3530' (1309') | 3700' (1479') | 3870' (1649') | 4050' (1829') |



|                                                 |     |     |     |     |     |     |
|-------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Gnd speed-Kts                                   | 70  | 90  | 100 | 120 | 140 | 160 |
| Descent Gradient 5.24% or Descent angle [3.04°] | 376 | 484 | 538 | 645 | 753 | 861 |
| MAP at ATA VOR                                  |     |     |     |     |     |     |

|                                |         |  |
|--------------------------------|---------|--|
| STRAIGHT-IN LANDING RWY 23R    |         |  |
| AB: <b>2880' (659')</b>        | ALS out |  |
| MDA(H) CD: <b>3210' (989')</b> |         |  |

PANS OPS

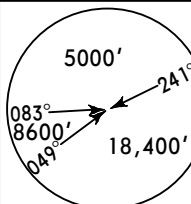
|   |       |  |
|---|-------|--|
| A | 2500m |  |
| B |       |  |
| C | 5000m |  |
| D |       |  |

**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **16-1** **Eff 9 Apr**

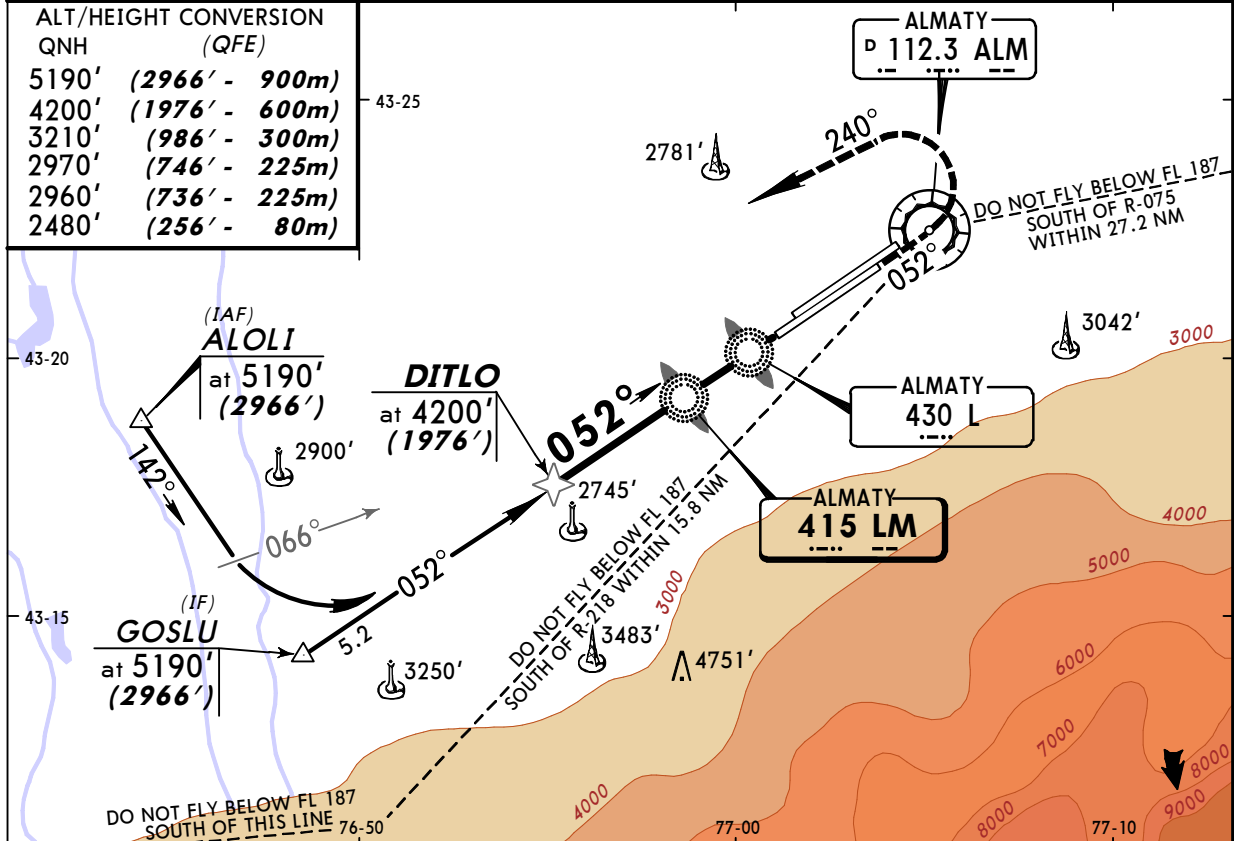
**ALMATY, KAZAKHSTAN**  
**2 NDB Rwy 05R**

BRIEFING STRIP

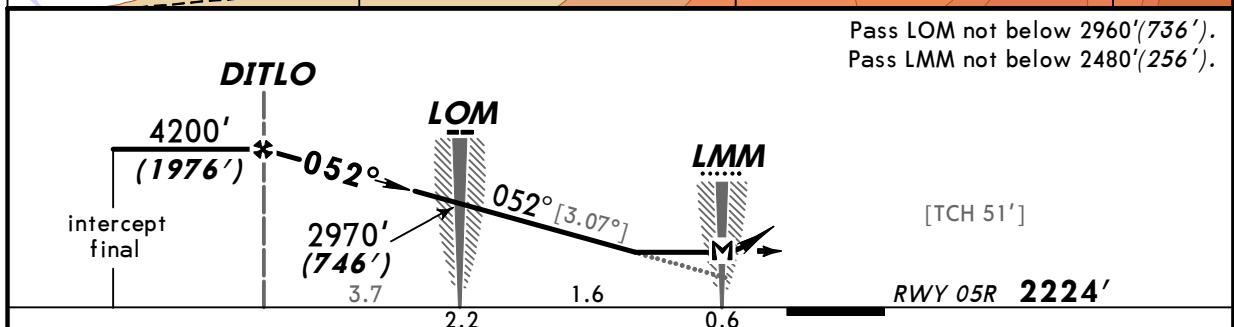
| ATIS                                                                                                                                                                                        | ALMATY Approach (R)              | ALMATY Radar (SRE)                    | ALMATY Tower (PAR/TWR)                                               | Ground                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 129.8                                                                                                                                                                                       | 124.8                            | 120.8                                 | 119.4                                                                | 121.7                                                                                              |
| NDB<br>LM<br><b>415</b>                                                                                                                                                                     | Final<br>Apch Crs<br><b>052°</b> | Minimum Alt<br>DITLO<br>4200' (1976') | MDA(H)<br>Refer to<br>Minimums<br>Apt Elev 2234'<br>RWY <b>2224'</b> | <br>MSA LM Lctr |
| <b>MISSED APCH:</b> Climb on 052° to 3210' (986') or above, then turn LEFT (MAX 215 KT) onto 240° climbing to 5190' (2966') and follow ATC instructions. Do not turn before passing L Lctr. |                                  |                                       |                                                                      |                                                                                                    |
| Alt Set: MM (hPa on req)                                                                                                                                                                    |                                  | QNH on req (QFE)                      |                                                                      | Trans level: FL 69                                                                                 |
| <b>Radar required.</b>                                                                                                                                                                      |                                  | Trans alt: 5190' (2966')              |                                                                      |                                                                                                    |

**ALT/HEIGHT CONVERSION**  
QNH (QFE)

|       |                |
|-------|----------------|
| 5190' | (2966' - 900m) |
| 4200' | (1976' - 600m) |
| 3210' | (986' - 300m)  |
| 2970' | (746' - 225m)  |
| 2960' | (736' - 225m)  |
| 2480' | (256' - 80m)   |



Pass LOM not below 2960' (736').  
Pass LMM not below 2480' (256').



| Gnd speed-Kts                                   | 70  | 90  | 100 | 120 | 140 | 160 |
|-------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Descent Gradient 5.24% or Descent angle [3.07°] | 380 | 489 | 543 | 652 | 760 | 869 |
| MAP at LMM                                      |     |     |     |     |     |     |

**STRAIGHT-IN LANDING RWY 05R**

| with LOM                   | w/o LOM                    |
|----------------------------|----------------------------|
| MDA(H) <b>2620' (396')</b> | MDA(H) <b>2960' (736')</b> |
| ALS out                    | ALS out                    |

PANS OPS

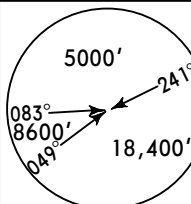
|   |  |  |
|---|--|--|
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |

**UAAA/ALA**  
**ALMATY**

**JEPPesen**  
3 APR 09 **(16-2)** Eff 9 Apr

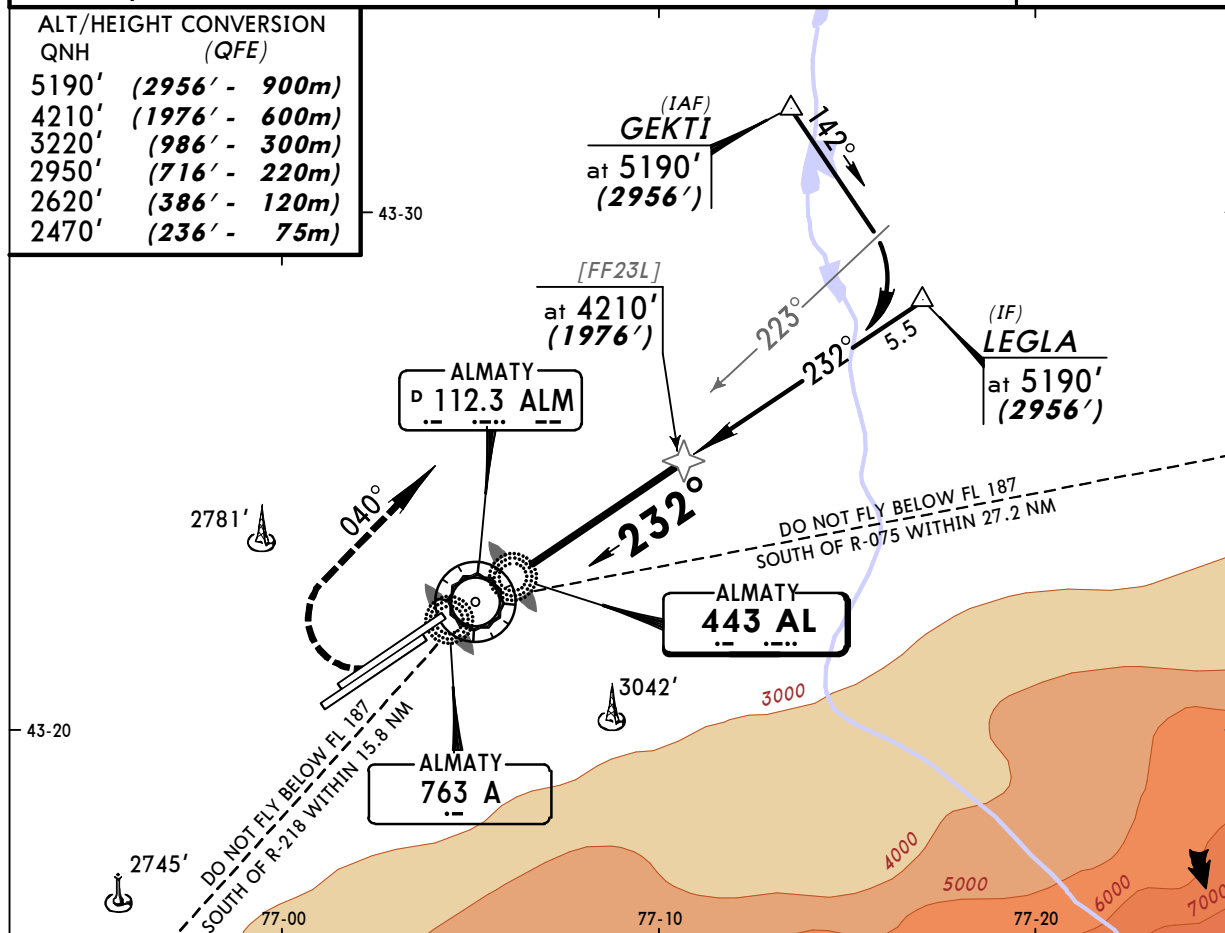
**ALMATY, KAZAKHSTAN**  
**2 NDB Rwy 23L**

BRIEFING STRIP

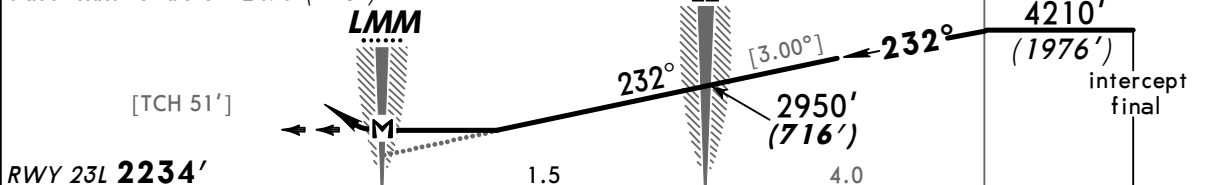
| ATIS                                                                                                                                                                                         | ALMATY Approach (R)              | ALMATY Radar (SRE)                        | ALMATY Tower (PAR/TWR)                                                      | Ground                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 129.8                                                                                                                                                                                        | 124.8                            | 120.8                                     | 119.4                                                                       | 121.7                                                                               |
| NDB<br>AL<br><b>443</b>                                                                                                                                                                      | Final<br>Apch Crs<br><b>232°</b> | Minimum Alt<br>LOM<br><b>2950' (716')</b> | MDA(H)<br>Refer to<br>Minimums<br>Apt Elev <b>2234'</b><br>RWY <b>2234'</b> |  |
| <b>MISSED APCH:</b> Climb on 232° to 3220' (986') or above, then turn RIGHT (MAX 215 KT) onto 040° climbing to 5190' (2956') and follow ATC instructions. Do not turn before passing A Lctr. |                                  |                                           |                                                                             |                                                                                     |
| Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 69 Trans alt: 5190' (2956')<br><b>Radar required.</b>                                                                              |                                  |                                           |                                                                             |                                                                                     |
|                                                                                                                                                                                              |                                  |                                           |                                                                             | MSA<br>AL Lctr                                                                      |

ALT/HEIGHT CONVERSION  
QNH (QFE)

|       |                |
|-------|----------------|
| 5190' | (2956' - 900m) |
| 4210' | (1976' - 600m) |
| 3220' | (986' - 300m)  |
| 2950' | (716' - 220m)  |
| 2620' | (386' - 120m)  |
| 2470' | (236' - 75m)   |



Pass LOM not below 2620' (386').  
Pass LMM not below 2470' (236').



| Gnd speed-Kts             | 70  | 90  | 100 | 120 | 140 | 160 | HIALS | MIM                  |
|---------------------------|-----|-----|-----|-----|-----|-----|-------|----------------------|
| Descent Gradient 5.24% or | 372 | 478 | 531 | 637 | 743 | 849 | PAPI  | 3220' (986') on 232° |
| Descent angle [3.00°]     |     |     |     |     |     |     |       |                      |
| MAP at LMM                |     |     |     |     |     |     |       |                      |

**STRAIGHT-IN LANDING RWY 23L**

|   | with LOM<br>MDA(H) 2570' (336') |                        | w/o LOM<br>MDA(H) 2620' (386') |                        |
|---|---------------------------------|------------------------|--------------------------------|------------------------|
|   | ALS out                         |                        | ALS out                        |                        |
| A |                                 |                        |                                |                        |
| B | 1500m                           | RVR 1500m<br>VIS 1600m | 1500m                          | RVR 1500m<br>VIS 1600m |
| C |                                 |                        |                                |                        |
| D |                                 | RVR 1500m<br>VIS 1600m |                                | RVR 1500m<br>VIS 1600m |

PANS OPS